

**SUSTAINING SCHOOLS AS LEARNING COMMUNITIES:
ACHIEVING A VISION OF THE POSSIBLE**

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DEDICATION

This study is dedicated to my parents

Loretta and James Kilbane

for their continuous love and support,

and to my friends and family

who have always believed in me.

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I would like to first acknowledge the teachers and staff of the schools who were the subject of my study. I am ever grateful for their willingness to share their time and thoughts with me, as well as their constant concern about being helpful to my work. The knowledge I have gained from them about learning and school reform, not only during my dissertation study, but also during the original reform effort is immeasurable.

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ABSTRACT

James Farrel Kilbane, Jr.

SUSTAINING SCHOOLS AS LEARNING COMMUNITIES:

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School change efforts to develop schools as learning communities result in a school that is constantly learning how to improve and thus constantly changing. This collective case study of four schools involved in a four-year reform effort begins to examine the issue of sustainability in a learning community.

First, this study develops a framework for considering whether a school is a learning community, beginning with the five disciplines of Peter Senge. It then discusses the need for collaborative inquiry with the characteristics of collaboration, inquiry stance, use of data, reflection, and public sharing. Finally the framework identifies five factors whose presence aid in sustaining a learning community.

Documents during the implementation phase of the reform effort are examined to characterize the status of the schools as learning communities at the end of the effort. Then four years later follow-up data is collected using interviews, document analysis, and observations. Findings indicate that none of the schools have continued as envisioned by the reform effort. Changes to the environment in which each of these schools operates has impacted that sustainability to varying degrees. While there are some aspects of the reform effort still present, teachers involved in the effort were unable to impact whole school change in the years following the initiative, but have sustained the change work on

an individual, though limited basis. In addition to the factors found by others to affect school reform (leadership, resources, support, time), this study suggests smaller faculty size may assist development of schools as learning communities.

Commonalities between the experiences of the four schools suggest that teachers experience a sense of loss and limitation when reform efforts are not continued, though they continue the efforts on an individual basis. Additionally, though the change of culture required in this whole school reform effort provided a challenge, there were some examples of cultural change occurring. Finally, this study notes that the elements, processes, and practices interact in a complex way that requires more study to understand both how to approach development of schools as learning communities, as well as their sustainability.

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List of Abbreviations

- CES - Coalition of Essential Schools
- CIG - Collaborative Inquiry Group
- CSR - Comprehensive School Reform
- IESN - Indiana Essential Schools Network
- NCLB - No Child Left Behind

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CHAPTER I

INTRODUCTION

Background to the study

Our attempts in the past century to change the educational system have been predicated on our modern world view. This view was influenced by physical and natural science conceptualizing the world as a large machine that would be best understood by studying its individual components. This view of the world expects predictability, stability and simple linear cause-effect relationships between components (Wheatley, 1999). It is imbued with the qualities of atomism/individualism (Eckersley, 1992), presentism (Lortie, 1975), and egocentrism (Kilbane & Holloway, 2001). Thus one focuses on pieces, parts and individuals, short-term adjustments and outcomes, and individual interactions, singular perspectives and homogeneity.

This world view influenced thought about human institutions, such as businesses and schools. The development of the factory and the subsequent structuring of schools to follow a hierarchical factory model (Clinchy, 2000) fit well with such a world view. In such a conception, change comes from making adjustments to individual components, in isolation of the other parts, in order to improve the efficiency of the whole (Capra, 1996). Change involves slightly modifying the machine to run better, but the machine itself (and the metaphor) is accepted as sound.

Scientific discoveries in the past century challenged the machine metaphor as an explanatory mechanism for how the world works. What emerged from those discoveries was a picture of uncertainty, unpredictability, and tangled connections (Wheatley, 1999).

The complexity, and particularly the interrelationships, of the world defied explanation in terms of simple, linear connections upon which the transmission model of teaching and learning is premised. Chaos, complexity, and living systems theories, developed from the new fields of particle physics and ecology, suggested a more relational, organic, and web-like conception of the world (Doll, 1993), a non-hierarchical system of interconnected relationships. Lessons from the study of living systems and ecology identify the characteristics of these systems as interdependence, (re)cycling, cooperation and partnership, flexibility to maintain balance, and diversity. These characteristics enable the self-organizing system to be self-bounded, self-generating, and self-perpetuating (Capra, 1996), so that it can sustain itself. Chaos, complexity, and living systems, collectively often referred to as systems theories, no longer fit with the modern worldview and the machine metaphor.

School reform efforts prior to the 1990's, aligned with the machine metaphor, tended to be categorical in nature focusing on changes to parts of the system in isolation. While having some impact, the large scale success hoped for did not materialize. A renewed effort in the 1990's to reform schools based on the growing understanding of systems theories generated comprehensive school reform (CSR) efforts. Rather than work on individual components of the school, they attempted to affect change of the whole school or system. In building upon the concepts of systems theory, CSR was a more systemic and dynamic approach that expected complexity, fostered continual change, and attended to the relationships within the system.

In 1998, in the midst of such reform efforts, the Indiana Essential Schools

Network (IESN) initiated the change effort “Inquiring Collaboratively about Standards-based, but not Standardized Learning for All Students” with ten schools across the state of Indiana. This effort was aligned with similar initiatives around the United States to assist schools with implementing the principles of the Coalition of Essential Schools (CES), one of the CSR efforts. The IESN initiative lasted four years, at which time the funding for this large-scale effort ended. Part of the hope of the reform initiative was that a capacity would be built in the schools, or in at least a critical portion of the staff, so that the practices and processes of the initiative would continue beyond the end of the funding. This hope was embedded in the work done during the initiative to develop schools as organizations with a common purpose that continuously collaborated to inquire about their culture and practice in meeting that purpose; in other words, to become learning communities. The learning process of these communities would enable them to better understand and improve upon not only the learning-teaching process, but also those factors that support that process.

It was serendipitous that I was available to be involved with IESN’s effort from the beginning. I have a systems orientation fostered by my ecological studies background and further strengthened by studies in physics and chemistry for my science teaching certification. I have always been intrigued by the complexities of ecology and the interactions of the sciences (e.g. the physics of chemistry, the chemistry of biology). For me, systems theory as an explanatory mechanism of how the world worked, of its complexities and interactions, was much more elegant and meaningful than the mechanical one. Being able to step back and consider the whole and the interaction of all

the parts was more intellectually satisfying than solely looking at parts under the microscope.

As I came to better understand systems theory in science it was easy to see how that work fit human situations, such as education, with their complex interrelationships. This impacted my thinking as a science teacher struggling to make sense of the world for my students. In my classroom it resulted in development of an integrative curriculum (Beane, 1991, 1992, 1995). Rather than teaching subject matter concepts in isolation, this more holistic approach taught them in tandem through application and projects that made connections to, and with, students. Considering the seventh-grade experience of my students as a whole system provided a better learning experience for the students, and a more fulfilling one for the teachers (Kilbane, 1997). Outside the classroom, viewing the entire school as a system, as a myriad of relationships in its totality, was valuable in considering how to approach making the entire middle school experience a better learning experience for students.

IESN's initiative, and the CES work upon which it was based, was a whole school (systemic) approach to school change that made logical sense to me. The student-centered focus of the CES ideals matched that of the integrative curricular approach. The democratic participation of the educators in developing the IESN reform effort resonated with my experience as a steering committee member for a regional professional development center in Ohio. The use of inquiry and data in the initiative supported my sense of how we should be intellectually curious about our work. In other words, the change effort fit who I was as an educator, an ecologist, and an inquirer.

When funding for the initiative ended after four years whole school reform was still espoused by school reform organizations, school districts, and state departments of education across the United States. But the political landscape had changed and with it the educational landscape. States were developing standardized tests as a sole measure of accountability for the effectiveness of schools, placing much attention on test scores. The newly authorized federal legislation commonly known as “No Child Left Behind”(NCLB) intensified that development. The federal Department of Education was promoting research into education that met the gold standard of experimental design (The Institute of Education Sciences, 2003). While the schools had begun to understand themselves as systems they were entering an educational landscape rededicated to a world as machine model for schools.

So, four years after IESN’s initiative ended, I was curious to find out what was happening with the schools that had been involved in the reform effort. Had the schools continued to develop as the learning organizations originally envisioned? If not were some aspects of learning communities still evident as would be suggested by Tyack & Cuban’s (1995) study of reform efforts over the past century or Taylor’s (2005) analysis of comprehensive school reforms. In either case, what factors had an impact upon the outcome? Understanding the interplay of these factors can deepen our ability to sustain change in the complex ecology of the human institution of schooling.

Purpose of the study

My curious pondering about what happened to the schools developed into this

study of learning communities. Its focus is the long-term impact of that four-year school reform effort to develop learning communities using collaborative inquiry as the learning process. I employ a collective case study methodology using four schools that participated in the IESN initiative. Using interviews, document analysis, and observations I explore the practices and processes of the schools as learning communities. The review of each school individually, and collectively, will yield conclusions related to persistence and sustainability of schools as learning communities.

In this study I propose to answer these questions:

- ~ To what extent have the four schools involved in the four-year IESN school change effort evolved into learning communities?
- ~ What factors impacted the development of the schools as learning communities since the grant ended?

The value of this study to the field of school reform is that it closely examines schools who hoped to become learning communities using collaborative inquiry as their learning process, which has not been explored before. Much of the research on school reform has been on efforts to implement school reform designs, so studies on issues of sustainability are rare. This is due, in part, to the fact that research on the initial efforts of comprehensive school reform is just now coming out and there has not been the time to study the longer term effects of the efforts. In examining the status of schools as learning communities four years after the initiative this study hopes to add to the reform conversation on the persistence of learning communities and collaborative inquiry.

Second, studies done so far only identify plausible factors that contribute to

sustainability, there are no causal studies that clearly identify the impact of these factors on sustainability (Taylor, 2005). The longitudinal nature of such work, as well as the challenges of determining fidelity to the ideal for that reform, and the interconnected nature of the factors that support reform may be reasons why such research has yet to be completed. The interactive nature of the elements on the human system of schools, particularly, makes traditional causal linkages challenging, if not impossible, to discern. Yet, this leaves us with a black box problem of not really understanding well how either reforms work or how they are sustained. Goldenberg (2004) suggests that case studies of reforming schools can begin to open that black box, providing some clues. This case study hopes to add to that conversation regarding the interrelationship of the elements of learning communities.

Overview of the study

Chapter II reviews the literature that supports developing schools as learning communities. The review considers three areas that were integral to the work done in the reform initiative. The first are the Five Disciplines practiced by a learning organization as identified by Senge (1990) that underlay the design of the initiative. The second is collaborative inquiry, the key learning process used by the initiative to affect change. Lastly, the review considers the work on sustainability of school reform to identify key factors that impact long-term effects of change efforts. These three areas provide the framework for the analysis of the data in later chapters.

Chapter III describes the methodology of this study. It includes the information

traditionally discussed in a methodology section: rationale for the case study, methods of data collection, data analysis, provisions for trustworthiness, and limitations of the study.

Chapter IV begins with a description of the activities and theory of action of the IESN reform effort. It then employs the framework developed in Chapter II to examine implementation data on each school. The implementation data was collected at the time that IESN's reform initiative was ending. Using the framework, the data provides a snapshot of each school as to its level of development as a learning community.

Chapter V also employs the framework developed in Chapter II, this time applied to the data collected in the past year, four years after the reform initiative ended. For each school it describes the current level of development, compares the level to that discussed in Chapter IV, and analyzes the data to determine what impacted development over time.

Chapter VI builds on the data presented in Chapter V by discussing themes that appeared in multiple schools. It also considers aspects that were unique to only one school where that aspect seemed to be connected to a characteristic of the school.

Chapter VII offers a conclusion to the study and a response to the questions set forth in Chapter I. It includes thoughts on the sustainability of learning organizations, the process of school reform, and areas for future research.

CHAPTER II

REVIEW OF LITERATURE

In considering the development of a learning community there are three areas to review. First, the characteristics and definition of a learning community. Second, the process by which the community continues to learn. Third, the factors that support that community and its on-going learning. This review will take each in turn and in so doing identify a framework with which the development of the learning community, its use of a learning process, and the presence of the supporting factors can be discussed.

The review begins with the literature that supports the development of schools as learning organizations/communities. It anchors this research to the work of Senge's five disciplines that had an instrumental impact on the change project of the Indiana Essential Schools Network (IESN). The five disciplines then are presented as the first part of a framework by which to consider the development of schools as learning communities. Since learning communities by definition must include a process by which the members and the community learn, the second section examines collaborative inquiry, the professional development and decision-making process employed by the schools under study. In addition to describing the process this section focuses on the impact of collaborative inquiry and its fit with Senge's five disciplines. As with the five disciplines key aspects of collaborative inquiry are incorporated as the second component of the framework for analyzing learning communities. The final section considers research on persistence of whole school change initiatives to illuminate key factors to sustaining reform. These factors then comprise the third component to complete the framework for

evaluating learning communities and analyzing the data collected in this study.

Learning Communities and the Five Disciplines

Schools have always been about learning, but this section will consider that in a new frame: schools as places where learning is on-going for all the individual members of the school community, including staff, and for the organization as a whole entity. First, a definition of a learning community¹ and its characteristics is developed. Special emphasis will be given to those characteristics or disciplines noted by Senge (1990) as they played a critical role in the development of the reform efforts employed by the schools in this study. This is followed by the presentation of the first component of a framework by which to evaluate the development of a learning community.

What is a learning community?

Whole school reform literature began to speak of developing learning organizations or professional learning communities as an outgrowth of reform efforts in the 1990's (Grossman, Wineburg, Woolworth, 2000; Rohlen, 1999). The argument for such an approach follows Sarason's (1990) assertion that "...it is virtually impossible to create and sustain over time conditions for productive learning for students when they do not exist for teachers" (p.145). These communities also build upon Dewey's (1916/1966) conceptions of community and education. For Dewey, the on-going life of the community required a continuous re-adaptation to new knowledge or needs. The scientific method was the decision-making process by which a community learned both to adapt and to

develop a common vision towards its growth, which Dewey defined as the ability to develop one's talents and abilities as an individual member of the community and which development would also benefit the group. He was therefore not only an early proponent of progressive child-centered education (a basis for the work of CES and IESN) but also this conception of learning communities or organizations.

A review of the current conceptions of "learning organization" and "professional learning community" reveals that there is an accepted, implied understanding of this concept based on the individual words used: a group of teachers (community or organization) who are learning together about improving their practice (professional). To this basic conception authors (as seen in the following paragraphs) add descriptions of what these communities would be doing to further define them. What is critical in their commonality is that the use of "community" moves the learning from that of an individual process prevalent in traditional teacher professional development to a collegial process that is aligned with a systems approach.

Meier (1992) provides a minimum level for collegiality by saying, "At the very least, one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy and necessary access to each other's classrooms, take it for granted that they should comment on each other's work and have the time to develop common standards for student work" (p. 602). Similarly, Little (1999) describes situations where "teacher learning arises out of close involvement with students and their work, shared responsibility for student progress, sensibly organized time and space, access to the expertise of colleagues inside and outside the school, focused and timely

feedback on one's own work, and an overall ethos in which teacher learning is valued" (p. 233).

Senge (1990), in his seminal work on organizations that learn, defines them as, "...organizations 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" (p.1). In his companion fieldbook he adds, "Learning in organizations means the continuous testing of experience, and the transformation of that experience into knowledge – accessible to the whole organization, and relevant to its core purpose" (Senge, et al., 1994, p. 49).

Senge's conception of a learning organization is similar to Dewey's. For Senge (1990), a learning organization is constantly learning, becoming aware of its own complexity and interdependence, and leveraging that knowledge to change and adapt to meet its future goals. He is more explicit than Dewey about the future orientation of the organization to continuously build its capacity to create the future, to engage in "generative learning" (p. 14). This future orientation moves teachers away from Lortie's (1975) presentism of focusing solely on their short time with the student to that of a perspective that considers their participation in, and relationship to, the development of the student over his/her school career. This long-term focus of improved learning for students is a given as an end result of a learning community by most (DuFour & Eaker, 1998; Grossman, Wineburg, Woolworth, 2000; Kruse, Louis, Bryk, 1995; Louis, Mark, Kruse, 1996; McLaughlin & Talbert, 2001; NASSP, 2004; Newmann, 1996).

This focus on learning by a collaborative professional culture can have a positive effect on student learning. Garmston and Wellman (1999) conclude from a review of numerous studies on high performing schools that collaboration and collegiality are the norm. “[W]e are referring to sharing expertise and perspectives on teaching and learning processes, examining data about students, and developing a sense of mutual support and shared responsibility for effective instruction” (p. 18). These activities lead to the innovation to engage learners that will most likely increase success with students, even those who are not traditionally successful in schools (McLaughlin & Talbert, 2001). Strahan (2003), concurs by finding, in his three-year case study of three elementary schools, an increase in achievement for low-income and minority students where such a strong, collaborative professional culture was present.

Based on a five year program of research involving twenty-four schools in sixteen states that addressed the issue of collaborative inquiry to support standards-based student achievement, Newmann (1996) identified five central elements for these communities that led to high achievement. He says:

...we noticed the importance not simply of individual practice within classrooms but the ways teachers connect to and work with colleagues throughout the school. We identified this positive work setting as school professional community and defined it more specifically through five elements that tended to occur together: clear values and norms, a focus on student learning, reflective dialogue, deprivatization of practice, and collaboration (p. 201-202).

A review of additional descriptions brings out the following common characteristics, similar to Newmann’s list:

1) ***Shared values, standards, vision, including a focus on student learning***

(Achinstein, 2002; DuFour & Eaker, 1998; Kruse, Louis, and Bryk,1995; Louise, Marks, & Kruse, 1996; McLaughlin & Zarrow, 2001; Newmann, 1996; Senge, 1990; Sergiovanni, 2000; Weinbaum, et al, 2004);

2) ***Collaboration*** (Achinstein, 2002; DuFour & Eaker, 1998; Fullan, 1993; Kruse,

Louis, and Bryk,1995; Louise, Marks, & Kruse, 1996; McLaughlin & Talbert, 2001; Newmann, 1996; Senge, 1990; Sergiovanni, 2000; Weinbaum, et al, 2004);

3) ***Deprivatization of practice*** (Achinstein, 2002; DuFour & Eaker, 1998; Kruse,

Louis, and Bryk,1995; Louise, Marks, & Kruse, 1996; McLaughlin & Zarrow, 2001; Newmann, 1996; Senge, 1990; Sergiovanni, 2000; Weinbaum, et al, 2004);

4) ***Reflection (personal and group)*** (DuFour & Eaker, 1998; Kruse, Louis, and

Bryk,1995; McLaughlin & Zarrow, 2001; Newmann, 1996; Senge, et al 2000; Weinbaum, et al, 2004);

5) ***On-going inquiry/learning for group and individual*** (Achinstein, 2002;

DuFour & Eaker, 1998; Fullan, 1993; McLaughlin & Talbert, 2001; McLaughlin & Zarrow, 2001; Senge, 1990; Weinbaum, et al, 2004).

Thus a learning community is a group of professionals who have a common vision toward student learning and shared standards that involve collaborating, sharing and reflecting on their practice, and inquiring into the teaching and learning process their entire career. The commonality of vision and collaboration of such a community lends itself to the whole school (organization) focus that Senge (1990) identifies as critical. Perhaps not as obvious at first read, these communities must have a dual focus on

individual classroom practice and collective whole school practice, on student learning and teacher learning, on individual learning and group learning.

A learning community so far described fits well with a metaphor based on an ecological system. In an ecosystem there is continuous growth of the system and the organisms in it; an interrelationship between the elements that make up the ecosystem; and feedback loops² through which a change in one area of the system impacts another which in turn impacts the first area. In a learning community there is a deepening understanding of the community as a system and its members (growth), shared or collective responsibility to the community and each other to ensure that growing understanding (interdependence), and the collection of data to ensure that growth is occurring (feedback loop). Additionally, collaborating toward the common goal necessary in school reform (Sarason, 2000) tightly mirrors the self-organizing conception where all components work in harmony to form a coherent whole. As the self-governing aspect of a living system regulates the whole to sustain itself, a community working to maintain its intellectual focus for the long term can balance the diverse, and potentially opposing, short-term needs of the school community (Newmann, 2002). Sustaining this culture of on-going action and results orientation that focuses on student learning, with a shared vision and values, reflective dialogue, and collaboration while engaging in public inquiry of practice requires enabling processes. Senge (1990, 1994, 2000) developed a set of processes to do so.

This was a school culture different than that described by Goodlad (1984) or Sizer (1984) in each of their classic studies into the experience of school for teachers and

students. Sizer's text, *Horace's Compromise*, described schools where students were disengaged from the learning process, where teachers focused on covering rather than understanding material, and where both students and teachers were discouraged by the institution in which they spent their days. Sizer followed this up with *Horace's School* (1992) and *Horace's Hope* (1996) where he attempted to describe schools with a culture of learning for student and teacher. In collaboration with a loose affiliation of schools that were trying to implement the vision in the books, the Coalition of Essential Schools (CES), Sizer developed ten principles (see Appendix A) to guide the efforts of schools interested in designing schools to meet the vision.

These principles promoted personalization (teachers knowing students well), students' performance of rigorous real tasks while teachers coached them in using their minds well, democracy and equity, and educators committed to the whole school experience of a student. Developing schools where these principles were in operation required a culture different than most schools in the United States. As culture is formed by the myriad of relationships, practices, and structures in a school, a consideration of culture lent itself to a systems view of schools. In addition the development of a school on these principles meant that teachers, as well as the students, would be constantly learning. Developing CES schools to be a learning community is a natural fit. This led to research on organizational theory and the development of learning organizations for CES and IESN.

Senge's five disciplines for a learning organization

Senge, a leading theorist of learning organizations, developed five disciplines based on the lessons from his work on systems theories that would help any organization develop into, and sustain as, a learning organization. These five disciplines, Personal Mastery, Mental Models, Shared Vision, Team Learning, and Systems Thinking (Senge, 1990), offer a coherent set of practices to approach school change. Using these disciplines, both the individual member and, collectively, the organization learns. In Senge's conception, such an organization would be self-sustaining: growing, developing, and improving by using the arts and practices he promotes, emulating the self-organizing characteristic of systems. These five disciplines were incorporated into the work of CES and IESN and thus provide a structure from which to examine the work of this study.

Personal mastery is the process of knowing your job well - both its theory and practice. Understanding the instructional process is a necessary element of a successful teacher, and collectively, a successful school where all students are learning well (McLaughlin and Talbert, 2001). Mastery depends on inquiring into one's craft throughout one's career, the individual learning component necessary to the sharing for group learning. Personal mastery and personal vision were two core capacities for change agents in the learning organization Fullan (1993) envisioned. The personal dignity that comes from mastery and being part of a professional community (Kruse, Louis, and Bryk, 1995) leads to the competence necessary before one commits to a greater involvement in the change process (Joyce, 2004).

Innovation and change that would improve schools, however, can be limited by

our perspective of what is possible. We all have *mental models* about how the world (or school) works. These need to be reviewed and examined as to whether they are limiting our conception of what is possible, thus preventing achievement of a goal, or of a common vision, or of what are possible areas for collaboration. Examining one's mental models can lead to a new perspective and its potentialities for new activities and interactions to improve student learning. A collaborative exploration into the school culture, which culture is made up of the interactions and relationships shaped by our mental models, can bring out multiple perspectives. One of the advantages of diversity, a strength in the ecological metaphor, is that these different perspectives can surface hidden assumptions that may be negatively impacting the system.

Such a common examination of perspectives can lead to a discussion of purpose and goals. *Shared vision* requires that everyone must have a common understanding of, and be able to articulate, the goal(s) of the organization, while identifying their role in attaining that goal. A commonly-held vision is a necessary element of a school learning organization as it defines the purpose of the organization and its shared nature enables the collaboration around which to rally and the endpoint toward which to direct coherent efforts. For successful schools, this shared vision focuses on student learning (Kruse, Louis, and Bryk, 1995; Louise, Marks, & Kruse, 1996; Newmann, 1996). However, in their work with 22 teachers over 2 ½ years in an urban high school, Grossman, Wineburg, and Woolworth (2001) found that a development of a strong professional community must focus on student intellectual development and teacher intellectual development simultaneously (see also Phillips, 2003).

It is this common dedication to their intellectual development that forms the basis for *team learning*. “Teachers’ professional community must maintain a dual focus, both on its own collective learning and on the social group as the crucible for individual change” (Grossman, Wineburg, & Woolworth, 2001, p. 975). It is engaging in this collaborative learning process that is a hallmark of a learning community. This process includes the deprivatization of practice where teachers publicly examine their practice and engage in a reflective dialogue about it (DuFour & Eaker, 1998; Kruse, Louis, and Bryk, 1995; Louise, Marks, & Kruse, 1996; Newmann, 1996; Senge, et al, 2000). McLaughlin and Talbert (2001) studied nearly 900 teachers over five years to determine that “the path to change in the classroom core lies within and through teachers’ professional communities: learning communities which generate knowledge, craft new norms of practice, and sustain participants in their efforts to reflect, examine, experience, and change” (p.18). It is this public process that is the crucible moving teachers away from teaching as a solitary activity with its individual focus to a shared activity of support to improve each other; changing one of teaching’s traditional norms from that of individualism to one of collaboration (McLaughlin and Talbert, 2001).

This switch from a focus on the individual to that of relationships, from parts to the whole, underlies *systems thinking*. One understands that the system as a whole (its rules, underlying assumptions, the interactions, its complexity - the culture) defines the situation (Sarason, 1990; Senge, 1990; Senge, et al, 2000). Changing a situation may require more than an adjustment to a part of the system, it may require a revision of the whole system. In a school, or other human community, there must be an examination of

the structure and culture of the organization, as well as the interrelated relationships within it, to better understand it and to determine effective potential changes. This requires a critical reflection to shed light on taken-for-granted norms (Achinstein, 2002) and a consideration of the varied perspectives of all those who are part of the system. Without this discipline, changes and adjustments made within the system may not be sustainable as they work against the system, and the system pushes back to return to its equilibrium, negating the effects of the change (Senge, 1990).

Collectively these five disciplines are meant to aid in the development of a different culture. First, “[t]he disciplines of personal mastery, mental models, and systems thinking all help us to productively examine and change the way we think” (Senge, et al., 1994, p. 48). This examination not only studies the formal organization, “but the hard-to-see patterns of interaction between people and processes” (Senge, et. al., 1994, p. 48). In other words they help us expose the culture in which we live. Then, secondly, “[t]he disciplines of shared vision, systems thinking, and team learning are specifically aimed at changing interactions” (Senge, et al., 1994, p. 48). It is the practice of these three that focus on developing new relationships and, in the process, a new culture, making the work valuable to schools reforming to be learning communities. Such a systems approach to school change is espoused by Fullan (1993, 1999, 2001b) whose work undergird the efforts of CES and IESN. Change efforts were designed to affect both classroom and whole school practices, as both were necessary for a systemic change to work (Fullan, 1993).

These five disciplines not only support each other, but also the development of a

community that has the elements enumerated above. Evidence of their practice can be one indicator of an organization operating as a learning community. They can thus provide a framework by which to evaluate a school's development as a learning community.

Evidence for the practice of the five disciplines would be overlapping. Explicit articulation of values/vision/standards in written documents and the coherence of such with verbal articulation by any member of the community would be evidence of their shared nature. This internalization would indicate that the values had become part of the culture. The access to each other's classroom and frequent conversations discussed by Meier, as well as Little's time and space for such would be indicators that collaboration and deprivatization of practice were occurring, as well as the practice of team learning and personal mastery. Both practices would also be evidenced by teachers participating in observations of each other and conversations about what each was doing in his/her classroom would bring to a public space the process of learning and teaching. Reflection on the results of these collaborations support the development of personal mastery, team learning, and shared understandings. Use of tools, such as reflection journals, and the time to be reflective would indicate a culture where reflection is promoted. A long-term, future-oriented focus on the development of students as a shared responsibility would suggest systems thinking. As also would the school community seeking out perspectives of students, parents, and staff on issues that impact learning and the school community.

Thus the practice of the five disciplines can comprise the first part of a framework that could be used to analyze the development of a learning community. This first part of the framework, the practice of the five disciplines, is shown in Table 1. The

table includes possible actions that would indicate the practice of each discipline.

Table 1

Learning Community Framework: Practice of the Five Disciplines

Five Disciplines	<i>Which in practice might look like...</i>
<i>Personal Mastery</i>	Inquiries into classroom practice Use of reflection journals Participation in professional development activities Reading professional books or journals Hosting or visiting other classroom teachers Discussing practice with colleagues or students
<i>Mental Models</i>	Use of protocols to guide conversations Use of activities to examine mental model Sharing of teaching philosophy Seeking multiple perspectives on issue, topic, or problem
<i>Shared Vision</i>	Articulated vision shows up in multiple documents/places Educators, students, parents can verbalize the same vision
<i>Team Learning</i>	Teachers speaking together about practice in groups Engaging in collaborative inquiry groups Looking at student work or data as a team Study groups; book clubs; common readings Observations of peers and follow-up discussions
<i>Systems Thinking</i>	Change efforts include classroom and whole school practices Perspectives of staff, students, and parents is sought Leadership is distributed; democratic decision-making processes Consideration of culture and system for school improvement plans Cross-grade curricular maps; looping; multi-age classrooms Coherence of purpose of curriculum, change efforts, professional development

The development of a learning community requires attention to the skills and knowledge needed (DuFour & Eaker, 1998; Louis, Marks, & Kruse, 1996) to not only move to, but also operate in, a systems thinking environment. Having considered a framework for determining key characteristics of a learning community, the next section

examines a process by which the learning organization and its members learn.

Collaborative Inquiry – Learning in a Learning Community

The generation of shared knowledge that McLaughlin & Talbert (2001) found important to professional learning communities was, for the schools in the IESN consortium, a process of inquiry by individual teachers within a collaborative setting that allowed the new norms of practice to be crafted and shared. Fullan (1993, 1999) from his study of school reform emphasizes the importance of nurturing collaborative cultures at school sites to inquire about learning and teaching by collecting data, examining and reflecting on that data, and then making adjustments based on the data to improve learning. This section looks at one process that generates that shared knowledge, collaborative inquiry. Development of a definition of collaborative inquiry begins this section and is followed by consideration of its two key elements, collaboration and inquiry. These two considerations lead to the identification of five elements of collaborative inquiry that will comprise the second part of a framework by which a learning community can be identified.

Collaborative Inquiry

This examination of collaborative inquiry begins by considering completion of the sentence, “Collaborative inquiry is...” As most authors describe an inquiry cycle as part of the collaborative inquiry process, how such a cycle works will then be taken up. Included in the discussion of the cycle will be its alignment with systems thinking, and particularly

Senge's five disciplines.

Collaborative inquiry, as a term, was new and still being defined when IESN began using it to describe its learning process. In the literature at the time it was loosely defined and concepts of "teacher inquiry" and "teacher action research" were also used to describe similar experiences. Most authors seemed to accept its meaning as derived from an understanding of the two words: an inquiry (asking questions, gathering data, analyzing data, forming conclusion) taking place within a collaborative or group setting. But in reality as people described the process it had a number of characteristics that were not apparent in a simple interpretation of the words.

Three authors attempted to succinctly complete the sentence, "Collaborative inquiry is..." In 1995, Wasley, King, and Louth, based on early CES work, stated, "Collaborative inquiry is, then, the process of engaging in inquiry on a topic of mutual interest, negotiating the conditions of the partnership, and, once underway, communicating about the subject of inquiry" (p. 204-205).

Five years later, Bray, Lee, Smith, and Yorks (2000) wrote about collaborative inquiry as a research methodology for the social sciences. "Collaborative inquiry is a process consisting of repeated episodes of reflection and action through which a group of peers strives to answer a question of importance to them. There are three parts to this definition: the repeated episodes of reflection and action, the notion of a group of inquirers who are truly peers, and the inquiry question" (p. 6-7).

In 2004, three organizations (Academy for Educational Development, CES, and Harvard's Project Zero) wrote about teacher inquiry based on long-term projects they had

undertaken with numerous school districts. This collaborative endeavor developed a definition that built on previous ones, but attempted to succinctly capture the complexity of the process.

“In its simplest terms, collaborative inquiry is the process by which colleagues gather in groups to pursue, over time, the questions about teaching and learning that the group members identify as important. Groups develop their understanding of an issue through framing a question, identifying artifacts or “evidence” that help respond to it, sharing perspectives on the evidence, reflecting on the partial or provisional answers that emerge, and revising the question in light of experiences and discussion. Through collaborative inquiry teachers make sense of their experiences in the classroom, learn from those experiences, and draw upon the perspectives of colleagues to enhance their teaching and their students’ learning (Bray, Lee, Smith, & Yorks, 2000; Carini, 2001; Clark, 2001; Cochran-Smith & Lytle, 1999)” (Weinbaum, et al., 2004, p. 2-3).

From these three definitions emerges a process that involves professional collaboration and an on-going inquiry cycle where participants hold an inquiry stance towards, and reflect upon, their own knowledge, beliefs, and practices. “Inquiry means internalizing norms, habits, and techniques for continuous learning” (Fullan, 1993, p.15). It is through this internalization that the culture necessary for a learning organization is created.

Collaborative inquiry, as a learning process for the learning community, operates as a central professional development experience for the schools in this study. It directly impacts the personal mastery of the individual and the team learning of the group, while also providing opportunity to examine mental models. When collaborative inquiry focuses on student learning it gathers data on students from multiple sources (tests, projects, observations, etc.) and over time. It is a process, not a collection of events,

embedded in the daily work of teachers. In other words it meets the standards for effective professional development set forth by the National Staff Development Council (NSDC, 2001). Such professional development also aligns well with CSR efforts, (Shank, 2000) and mirrors a systems thinking orientation.

Guskey (2000) questions the validity of these standards however because the research used in developing them was based on examples of ineffective professional development. He counters with an analysis of research on effective professional development, that can clearly identify only four characteristics: 1) “a clear focus on learning and learners;” 2) “an emphasis on individual and organizational change;” 3) “small changes guided by a grand vision;” and 4) “ongoing professional development that is procedurally embedded” (p. 36-38). Even this more limited set of characteristics support the qualities of collaborative inquiry. In suggesting that attention needs to be given to organizational change, and that changes need to be incremental, he brings a focus on the organization as a whole that is missing from the NSDC standards. Though collaborative, the NSDC standards still focus solely on the actors. Guskey deepens the link to the holistic nature of a learning community by connecting activities to a grand vision and focusing on organizational change.

The Collaboration of Collaborative Inquiry

Collaboration for the authors above is more than a simple “working together” on a project. It is built on democratic principles in its decision-making (Bray, Lee, Smith, Yorks, 2000; Oja & Smulyan, 1989). Participants in the process are seen as true peers and

equal partners regardless of experience (Bray, Lee, Smith, Yorks, 2000; Cochran-Smith & Lytle, 1999, 2001; Wasley, King, Louth, 1995; Watson, Burke, Harste, 1989) thus bringing in multiple perspectives (Ayers, 1992) and using diversity as a strength (Fullan, 1999; Grossman, Wineburg, & Woolworth, 2001; Senge, et al, 2000; Sergiovanni, 2000) as it would be viewed in a ecological community. This more democratic nature of collaboration comes from a critical theory perspective. Critical theory undertakes a critique of culture and its inherent limits that restrict some people from being able to participate as freely as others. It was this critical perspective that drove development of collaborative inquiry (Bray, Lee, Smith, Yorks, 2000) as a tool for cultural change in schools (Cochran-Smith & Lytle, 2001), and simultaneously supported democratic outcomes of that change.

However, teachers being grouped together does not automatically lead to collaboration (McLaughlin & Talbert, 2001). In general, four relationship patterns are possible among a faculty: individualism, balkanization, collaboration, and contrived collaboration (Hargreaves, 1992). Traditionally individualism has been the norm with the bulk of each teacher's work done in isolation of the others. This individualism can lead to balkanization, where like-minded teachers coalesce into insular factions within schools. To counteract that, and to create and sustain collaborative cultures, teachers need to develop interpersonal skills, such as tact, sensitivity, diplomacy, charm. When these skills are not developed and teachers are required to collaborate, a "bounded" or limited collaboration occurs. In such a situation the team of teachers only deals with immediate and routine issues, rather than deep, rich substantive issues and the long-term planning

that will bring about change (Hargreaves, 1992). Development of understandings about group theory and group processes can promote the environment to move beyond this contrived collaboration.

Teacher inquiry and action research are often considered an individual endeavor, following the traditional world of teaching. A group of teachers doing individual inquiries, however, does not create an inquiry-minded school (Rallis & MacMullen, 2000). Rather the collaborative and democratic nature of the process supports the practice of Senge's (1990) shared vision discipline. These inquiries need to work together to further the goals of the school to effectively have an impact on culture, learning, and teaching. The public nature of the process in which individual inquiries are shared adds an accountability to both teacher and school, a deeper understanding on the part of the teacher inquirer, the support and challenge of peers, and shared knowledge for the community as a whole. It is this collective struggle to determine quality teaching and learning that pushes school change (Darling-Hammond, 1997).

The Inquiry of Collaborative Inquiry

Common to all the authors reviewed for this study, the collaborative inquiry process consists of four basic activities: asking questions, experimenting and gathering data, analyzing data and reflecting, and concluding and public sharing. Since the inquiry process is on-going, non-linear, and recursive, it is generally depicted as a cycle or spiral. (See Bray, Lee, Smith, Yorks, 2000; Cushman, 1999; Goldman, 2005; Oja & Smulyan, 1989; Shank, 2000; Watson, Burke, Harste, 1989; Weinbaum, et al, 2004.) This section

will examine each of the four basic activities.

Asking questions.

The starting point of asking questions is being curious and open, of fostering an inquiry stance (Cochran-Smith & Lytle, 1991, 1999, 2001). The stance moves people away from a time-bounded conception of the inquiry process, to a constant way of viewing their world, in line with Fullan's internalization noted earlier. "Taking an inquiry stance means teachers and student teachers working within communities to generate local knowledge, envision and theorize their practice, and interpret and interrogate the theory and research of others" (Cochran-Smith & Lytle, 2001, p. 50). Such a stance leads to posing questions, not just answering them, moving teachers into generating their own knowledge about practice and supporting the democratic value of moving beyond the expert-novice distinction to that of inquiry communities where all are improving their practice. It is this willingness to explore one's mental models that then allows the questions to be asked. But in order to meet larger goals of school change this also requires beginning to take a systems view; a realization that not only will a person look at her/his own practice, and of students' learning, but will also consider the context that supports both (Shank, 2000).

Once a teacher accepts the invitation to question her/his practice, she/he comes together with others to focus the question. It is this activity that uses the discipline of shared vision, coming to a common understanding in order to focus the question. During this process the group is also developing the norms of collaboration and collegiality that will determine how they interact with each other, while simultaneously developing

proficiency in group processes (Bray, Lee, Smith, & Yorks, 2000). In addition, this collective focusing also supports a coherence in the actions of the members of the group, thus improving the chance for success of their efforts.

Experimenting/gathering data.

This step in the process involves collecting data on the current status of student learning, classroom practice, or school environment, then trying a new action, and gathering data again to see what effect the new event had. It is this data that “galvanizes and makes meaning of other forms of professional knowledge, and so occupies a pivotal role in what teachers learn, how they learn it, and the action that results” (McLaughlin & Zarrow, 2001, p. 100). This focus on data centers the collaboration and conversation, decreasing the impact of teachers’ personalities in the discussion by focusing on the common goal of student learning. Once teachers are clear about what students should be able to do, collecting evidence on that learning as part of quality on-going professional development will have the best chance of affecting change in classroom practice (Guskey, 1995) for a diversity of learners (Newman, 1996). Weinbaum, et al (2004) note that data that may be needed is not always accessible and such must be taken into consideration in designing the inquiry, even though it potentially limits the learning possible.

Reflect/analyze data.

Analyzing and reflecting upon the data involves the interplay of personal mastery and team learning. It is during these activities that teachers are actively looking at student work to understand the connection between learning and teaching. “Perhaps one of the most powerful and least costly occasions of teacher learning is the systematic, sustained

study of student work, coupled with individual and collective efforts to figure out how that work results from the practices and choices of teaching” (Little, 1999, p. 235). Darling-Hammond (1997), citing several research studies on assessment, concurs that looking at student work in common leads to changes not only in teacher practices, but learning for students, particularly those who have been less successful at schoolwork. “The more information teachers obtain about how students perform, the more capacity they have to rethink their pedagogy, and the more opportunities they create for student success” (p. 237). This collaborative study of student work advances the intellectual quality of student learning which helps diverse groups of students to achieve high standards (Newmann, 1996) and is the “heart of accountability” (McDonald, 1996).

This step is dependent on an ability to reflect critically. Reflection is apparent throughout the collaborative inquiry process, not just at the end as a review of the process. Rather, similar to an inquiry stance, reflexivity needs to be a characteristic of inquirers (Watson, Burke, and Harste, 1989). Reflection is done individually by teachers and collectively by the larger group during every part of the process, though it plays a critical role during the analysis of data. All the authors on collaborative inquiry speak to this reflection as an on-going element throughout their inquiry processes.

Concluding/public sharing.

While all the authors have a conclusion stage in their inquiry process, Watson, Burke & Harste (1989) developed the element of public sharing. In their exposition of writing as inquiry they promote the importance of publishing, putting one’s work out for others to see. In this stage teachers are sharing their new knowledge, skills, and/or beliefs

about teaching and learning. Teachers are engaging in conversations beyond the classroom, developing their professionalism and the profession. This requires that Watson, Burke & Harste's (1989) conditions of inquiry – vulnerability, community, generation of knowledge, democracy, reflexivity – come into play. It is the exposure of one's ideas to a public outside of one's self that requires an acceptance of vulnerability, the value of community as necessary to individual improvement, generation of knowledge as a greater good, the value of all voices being heard, and reflection on those different voices in order to learn.

The activities of consolidation and preparing to share, as well as the sharing with others, continue to foster team learning and personal mastery (by articulating clearly what one has come to know and thus making it clearer to yourself). It is here that accountability to one's theory of action on teaching and learning comes to the forefront. The sharing nurtures the professional community of the school, which Newmann (1996) found helps students achieve. DuFour and Eaker's (1998) work on professional learning communities echo this, as well as that of Grossman, Wineburg & Woolworth (2001).

It is also during these activities that systems thinking comes into play. Exhibiting to a larger audience brings out multiple perspectives on one's thinking. It is these perspectives that can come from different parts of the system (administration, parent, community-at-large, student) that then begin to aid one in seeing the entire system and adjusting one's mental model to incorporate the various perspectives. It is this accepting of multiple perspectives and diversity in schools as a strength (Fullan, 1999; Grossman, Wineburg, & Woolworth, 2001; Sergiovanni, 2000) that matches the importance of

diversity in an ecosystem and the value of such to a learning organization (Senge, 2000).

Reflecting on the new knowledge and these perspectives continues to use the skill of critical reflection (Cochran-Smith & Lytle, 1991) that all the authors cite as part of the collaborative inquiry process. It is now that a teacher begins to use her/his new knowledge to construct a more complex understanding of the learning and teaching process. It is this discipline of revising one's mental model that takes a teacher one step farther on the journey of seeing changes necessary to the larger system in order for better learning to occur.

Working together these activities can create a culture of collaborative inquiry. MacMullen (1996) cites several research studies all pointing to the conclusion that a culture of inquiry supports student learning. She describes schools clearly defining what they want students to know and be able to do and then establishing a strong professional community to sustain critical inquiry about their level of accomplishment through data analysis. The improvement in classroom instruction leads to increased student achievement according to Costa and Garmston (1994) who also reference several studies in making their claim.

Collaboration and the four activities of the inquiry process can provide a second element to a framework by which to consider the development of a learning community. This may be particularly helpful for schools who are not formally doing collaborative inquiry. Looking at these key actions might indicate that some other learning process has taken its place. The five characteristics and possible actions that would indicate the practice of each are shown in Table 2

Table 2.

Learning Community Framework: Practice of Collaborative Inquiry

Collaborative Inquiry	<i>Which in practice might look like...</i>
<i>Collaboration</i>	Teachers working together on instruction, projects, activities Teachers collaborating with students to plan/make decisions Distributed or representative leadership for decision-making
<i>Inquiry stance</i> (asking questions)	Educators verbalizing questions about their practice Teachers asking for input from peers and/or students Educators asking and supporting others to ask, “Why?”
<i>Using data</i> (experimenting / gathering data)	Student work being examined to inform teaching/learning Review of state-test scores, NWEA scores, other instruments Making a decision based on data Manipulating data to look for the story
<i>Reflecting</i> (reflecting / analyzing data)	Use of reflection journals Staff discussing the impact of some data Staff and students articulating reflective responses
<i>Sharing Publicly</i> (concluding / public sharing)	Educators sharing new knowledge w/peers, students, parents Educators discussing practice with students/team members Presenting at conferences or writing for journals

In most schools cultural and organizational factors limit the development of these collaborative inquiry processes. What are these factors and what is their impact on whether a learning community thrives? The next section considers the lessons being learned about the sustainability of CSR efforts to answer that question.

Support of CSR efforts --Environmental Factors

Sarason (1982) saw the challenge to cultural change (the outcome of CSR) as being somewhat even more basic than issues of stance or ways of collaborating.

It was not until I began to think and observe in a more ecological way that I began to see the dimensions of the problem, for example, that not talking with each other was but one instance of the general tendency for teachers in a school to have very little sustained interpersonal adult contact. ... Teachers are alone with their children and problems in a classroom, and the frequency and pattern of contact with others like themselves are a kind and quality that make new learning and change unlikely (p. 134).

Just as water, minerals, and air are needed to support life in a natural ecosystem, the underlying structures to support collaborative inquiry or a learning community, are necessary for growth (Feldman, 2000). Research into the persistence of reform efforts indicates a number of factors which impact that growth or sustainability. Due to the relatively few studies completed on sustainability (Florian, 2000; Gersten, Chard, & Baker, 2000; Taylor, 2005), this review will depend heavily on two reviews and two case studies similar to this one. This section first reviews that research, then from that research identifies five key factors around which the research seems to coalesce. The first two factors, collaborative structures and leadership/administrative support are organizational in nature. The second two factors, relational integrity and enablers, deal with supportive relationships and accountability. Lastly, coherence is all of these factors working in tandem toward the same focused end.

The Research on Sustainability

Taylor (2005) notes that maintaining a relationship with a service provider has often been the measure of sustainability in empirical research studies on CSR. Taylor then references Datnow (2001) to discuss a second conception of sustainability, the

continuation of reform practices, whether the relationship with the external reform effort continues or not. This conception is best described using Florian's (2000) definition: "Sustained reform is most often defined as a continuation of classroom practices or other activities that have been implemented during the reform program's existence, and the decisions, actions, and policies by school and district leaders that support that continuation" (p. 3). The studies under review here generally tend to use a conception similar to Florian's.

One of the four key studies for this review, Florian (2000) studied four districts nine years after they initiated a CSR effort. She found that the continuity of the changes was influenced by these factors: staff development becoming routine, school culture supporting innovation, collaboration focusing on achieving goals, consistent leadership, and district structures and political context supporting reform ideals. But more importantly she notes that these factors work, and should be considered, in tandem. This conclusion is consistent with the interdependence important in systems thinking. A learning orientation is further evidenced when she says "... it can be argued that the goal of education reform is not simply the implementation and continuation of effective practices, but also enhanced capacity for ongoing school improvement" (p. 5).

To determine the factors that support that ongoing improvement, Taylor (2005) reviewed the literature on sustaining school reform to find that the following were present when reform persisted:

- 1) high local school capacity
- 2) supportive political context
- 3) sufficient funding

- 4) positive student outcomes
- 5) fit or alignment between the reform design and the school
- 6) leadership stability
- 7) faculty retention
- 8) faculty commitment
- 9) practical concrete reform specifications that are structured into the daily life of school
- 10) sustained professional development & model developer assistance
- 11) protection from competing reforms (p. 9).

He followed this review with an analysis of 395 urban, disadvantaged, low-achieving elementary and middle schools three years after they began a CSR reform effort. He found that the absence of one or more of these factors contributed to the decision to end a reform effort at every school. Also noting the interconnectedness of these factors, Taylor's research suggests that the two most critical factors are retaining teachers and professional development. Professional development to deepen the understanding of the staff about the reform and then retaining those teachers with that knowledge. In other words, development of capacity to work in a new learning and teaching culture.

Goldenberg's (2004) five-year case study examined this development of capacity through an effort, in which he was involved, to improve literacy achievement for non-English speaking Latino students at a single elementary school. His model of improvement identifies four change elements: goals, indicators of success, assistance from knowledgeable others, and leadership. As his study unfolded he found that in addition to these elements there was a need for time for staff to come together in order to discuss and learn.

Additionally, Goldenberg (2004) asserts that setting and coherence are important.

Paying attention to, and planning for, the unique context while working to insure that multiple environmental, behavioral, and attitudinal factors work together provides an example of more ecological and systemic thought. As he says,

But the improvement in pacing cannot be seen as independent of the other changes mentioned – the earlier start in literacy learning during kindergarten; the more balanced, substantive approach to reading instruction in first grade; and systematic, regular efforts to involve children’s homes and parents in their early literacy achievement. In fact, the dramatically changed picture of student progress in the reading program is best understood as the result of the several factors identified working here in concert. Children were learning earlier and learning more about literacy, both in and out of school. Teachers were able to challenge children more, yet appropriately. As a result, there was no longer any need – whether real or perceived – to spend weeks and months in endless rounds of phonic and syllabic drilling. Improved pacing was thus more than a vacuous exercise in turning textbook pages faster, and it was as much an effect of improved achievement as it was a cause (p. 35).

This less linear cause-effect nature of interacting parts is characteristic of the understanding of how systems work.

The factors found in each of these studies is enumerated in Table 3. They are organized into five categories around which they coalesced. The first column lists those categories as the environmental factors that will be used in this study: collaborative structures, administrative support, relational integrity, enablers, and coherence. The second column associates factors from each research study with the corresponding environmental factor to explain how the categories were developed.

Table 3

Key Environmental Factors from Review of Sustainability Literature

Environmental Factor	Factor from sustainability research
Collaborative Structures	time to practice new reform practices (Gersten, et al.) time for educators to come together (Goldenberg) sustained professional development (Taylor) development of staff ability is routine (Florian) sufficient funding (Taylor)
Administrative Support	leadership stability (Taylor) leadership is consistent (Florian) political context supports reform (Florian) support from system (Gersten, et al.) leadership (Goldenberg) sufficient funding (Taylor) protection from other reforms (Taylor)
Relational Integrity	faculty commitment (Taylor) faculty retention (Taylor) innovation supported (Florian) goals (Goldenberg) goal-focused (Florian) focus on student data (Gersten, et al.) indicators of success (Goldenberg)
Enablers	model developer assistance (Taylor) professional networks (Gersten, et al.) assistance from knowledgeable others (Goldenberg)
Coherence	fit or alignment between reform design and school (Taylor) practical concrete reforms are structured into daily life (Taylor) factors working in tandem (Florian) coherence of efforts (Goldenberg)

Some of the factors in the second column cross categories. Goal setting could also be considered a collaborative structure and a critical element of coherence, the goals being the object around which the elements of school reform cohere. Similarly, indicators of success could be seen as a structure also, a tool by which the school determines its effectiveness. Sufficient funding is already noted as being in both the category of structure and administrative support as such support is usually required for funds to be

funneled to reform efforts. Each of these environmental factors will be discussed in more depth before outlining the last component of the framework by which this study will consider the development of learning organizations.

Organizational Environment: Collaborative Structures and Administrative Support

In a three-year study of eight elementary, eight middle, and eight high schools who were successful at developing a professional community Louis, Marks, & Kruse (1996) developed a framework of structural conditions and social resources that made a “substantial contribution” (p. 777) to the strength of the community. Their research suggested that there were four “structural” conditions: scheduled planning time, teacher empowerment; staff size, staffing complexity; and five “social resources:” supportive leadership, feedback on instructional performance, openness to innovation, respect, professional development. Other authors are not as extensive in their considerations but generally concur that these conditions are important (Bray, Lee, Smith & Yorks, 2000; DuFour & Eaker, 1998; Sarason, 1990; Senge, et al., 2000; Weinbaum, et al., 2004).

Time for teachers to come together is the single structural condition most commonly cited as a necessity and a challenge to the reality of collaborative inquiry or collaboration (Bray, Lee, Smith & Yorks, 2000; DuFour & Eaker, 1998; Sarason, 1990; Senge, et al., 2000; Weinbaum, et al., 2004). Most collaborative inquiry initiatives have teachers meeting outside of school time, usually with a stipend. This arrangement leaves the meeting as an “extra,” that can be ignored when the teacher’s life outside of school requires attention. Fitting the time to meet within the school day or professional time of

the teacher should remain the goal for collaborative inquiry to be an effective process for a learning community.

Time is usually dependent on resources. Appropriate resources, along with administrative support to provide those resources, is a second structural condition (Bray, Lee, Smith, & Yorks, 2000; Little, 2002; Louis, Marks, Kruse, 1996; Oja & Smulyan, 1989). Collaborative inquiry requires a different mode of interacting, and takes work and time to develop. Administrative support, over time, to stay the course while collaborative and inquiry habits are developed is therefore necessary. Resources are needed for coaching, substitutes to allow teachers to visit each other's classrooms, equipment to videotape teaching, financial support to present at conferences, and internet access for professional communication. Additionally, there needs to be new structures for increased communication (Senge, et al., 2000) and staff arrangements to simulate the value of a smaller staff (Louis, Marks, & Kruse, 1996), such as closer physical proximity (Senge, et al., 2000).

Administrative support is also necessary to provide the autonomy and empowerment that teachers need to do their collaborative inquiry work (DuFour & Eakers, 1998; Louis, Marks, Kruse, 1996; Newmann, 2002; Senge, et al., 2000). If teachers don't feel they have the power to make changes based on the findings of their inquiry, they will not invest the energy or effort into the challenging work of inquiry. This empowerment also can increase a sense of accountability, which can be further enhanced by opportunities to share the results of inquiries with a larger public, be it professional or the local community. Providing support for professional exchanges such

as critical friends visits (where visiting groups provide feedback to the host school), presenting at conferences, or hosting community open house nights can develop a new form of professionalism that embraces an inquiry-based life-long learning (Little, 2002).

Organizational structures and administrative support may provide a fertile ground upon which the interdependent relations of a community can grow, but the collaborative relationships necessary for the professionalism that supports team learning, shared vision, and collaborative inquiry depend upon the development and maintenance of strong relationships. Fostering these relationships (Hawley & Rollie, 2002; Sergiovanni, 2000) and providing for their support (Allen & Calhoun, 1998; DuFour & Eaker, 1998; Louis, Marks, Kruse, 1996; Joyce, 2004) thus becomes an important part of a school reform effort.

Relational Environment: Relational Integrity and Enablers

Professional collaboration in learning organizations requires development of a radical new culture (Grossman, Wineburg, & Woolworth, 2000) which requires members interact in new ways and develop new professional relationships (Fullan, 1993; Hammerman, 1995; Pritchard & Marshall, 2002). Without a change to the ways of interacting accompanying the physical changes, at best only pseudocommunities (Grossman, Wineburg, & Woolworth, 2000) with a contrived collaboration (Hargreaves, 1992) will result. This section considers relational integrity and enablers, factors that support the accountability of these communities to themselves.

Relational integrity is the internal accountability of the members of the

community to continuous learning (the future orientation of system thinking) and to each other (system thinking's focus on relationships) that schools in the study attempted to develop. It begins with teachers who are committed to themselves. Teachers must be confident of their pedagogy (personal mastery) to develop the pride that is a prerequisite for the innovation necessary in a learning community (McLaughlin & Talbert, 2001). Cochran-Smith & Lytle (1999) agree, arguing for "an expanded conception of practice as both practical and theoretical, and a fuller conception of teacher learning across the professional life span than that implied by the expert/novice distinction" (p.19).

This commitment to continuous learning requires a goal-orientation and an acceptance of the accountability that goes with setting and measuring progress toward goals (Florian, 2000; Goldenberg, 2004) whether it be the goal of student learning or teacher learning. Measurement of progress toward goals requires that teachers know the technical aspects of collaborative inquiry (Weinbaum, et al., 2004). The knowledge of developing and using formative assessments as well as collecting, managing, and analyzing the data that results is an aspect of the environmental factor of relational integrity.

When the commitment is to school goals, it becomes a group inquiry, which then involves the second aspect of relational integrity, responsibility to one another. Accepting responsibility for the learning of not only oneself, but of all members is an element of professional community (Allen, Blythe, and Seidel, 2002; Grossman, Wineburg, & Woolworth, 2001; Westheimer, 1998). This responsibility requires an acceptance of mutual respect (Cochran-Smith & Lytle, 1999), which disposition supports the

deprivatization of practice and conversations that lead to shared vision and team learning.

Engaging in effective conversations that comprise deprivatization of practice require a knowledge base of group theory/skills (Mohr & Dichter, 2002) and conversational skills (Clark, 2001) necessary for the relational integrity to be a strong environmental factor. The common ground for learning communities can be found in the shared vision and the focus on student learning. Focusing on student work supports group cohesion by moving the focal point onto actual data (MacMullen, 1996; Schmoker, 1999) and turning the focus away from the individuals interacting to that of the central work, an important element of group theory (Hammerman, 1995).

These conversations will be challenging nonetheless due to diversity of views, fluidity of relationships and the multi-dimensionality of group work, but that challenge is necessary for learning (Achinstein, 2002). A community of teachers with mutual respect and long-term orientation will hold the value of team learning strongly enough, and care deeply enough, to have the challenging conversation rather than retreat behind the doors of their individual classrooms (Grossman, Wineburg, & Woolworth, 2001). But in addition to commitment to the conversations it means having the conversational skills to balance honesty with care and concern so as to not shut the other person down (Cavazos & members of WEST, 2001; Grossman, Wineburg, & Woolworth, 2001). It means knowing how to “set norms” to articulate how group members interact (Weinbaum, et al., 2004). It means the use of protocols that structure conversations to help educators practice ways of talking that are more productive in a collaborative setting (Little, Gearhart, Curry, & Kafka, 2003; McDonald, Mohr, Dichter & McDonald, 2003).

Oja & Smulyan (1989) state the need for technical support to learn new conversational skills, group dynamics, data processing skills, and knowledge about the inquiry process while Weinbaum, et al (2004) describe the importance of partners to support teachers in the collaborative inquiry endeavor. In addition to technical support follow-up from an external sympathetic partner can provide both the motivation and the pressure of occasional nudging that allows those engaged in the difficult process of implementing change to persist long enough for the efforts to take root (Guskey, 1995) and for school reform to sustain (Moffett, 2000). There are two key supporting partnerships or *enablers* discussed in the literature that were used by the schools under investigation: coaching and networking. The term “enabler” is used to describe them in this study because both keep change efforts moving, push people to consider new ideas or perspectives, and challenge the underlying assumptions that may prevent progress.

Poglinco and Bach (2004) define coaching as “a process whereby seasoned teachers provide instructional support, professional development opportunities, feedback, and materials to classroom teachers” (p. 398). In school reform settings coaching involves working with a group or school. In a study of coaches involved in an effort similar to IESN’s, Tung & Feldman (2001) described the responsibilities of coaches as: 1) developing a collaborative culture; 2) improving teaching, learning, and assessment; 3) creating structures for high achievement; and 4) promoting decision-making based on data-based inquiry. Each responsibility corresponds to an aspect of relational integrity: strengthening relationships, professional accountability, long-term goals, and use of evidence. At the same time the tools a coach uses in Costa and Garmston’s (1994)

conception – observing, questioning, probing and clarifying, providing data, reflection – enable a coach to model the inquiry cycle for teachers with whom he/she is working.

Costa and Garmston (1994) argue that “few educational improvements achieve their full impact without a coaching component” (p. 7) and Moffett (2000) that they play a “crucial role” (p. 96). This may be particularly true of an external facilitator who can play the role of McLaughlin and Zarrow’s (2001) boundary spanner bringing an outside perspective to the thinking of the group and providing a necessary challenge to that thinking (Cavazos & members of WEST, 2001; Costa & Garmston, 1994). To take on that role, the facilitator may need to be not only skilled, but also have authority in three areas: a) official – is designated by administration; b) relational – group members accept the facilitator playing that role; and c) self – person accepts authority (Allen, Blythe, & Seidel, 2002). With this authority a coach can provide a form of external accountability, but a sympathetic accountability to support relational integrity and the group.

Professional networks of individual teachers for the purpose of sharing ideas about practice have been around for many years, but the networks discussed here are made up of schools focused on reform. Schools in these networks are like-minded or using the same reform principles, often supported by a national organization.

McLaughlin (1990) suggests that “...the embedded structure of greatest import to teachers might have little or nothing to do with policy – it might have to do with professional networks, school departments, or other school-level associations or colleagues, however organized” (p. 14). This may be because they can provide the two-pronged action of support and pressure necessary for learning to occur (Meier, 2000). They support each

other by sharing knowledge learned or tools developed. Or “[c]hanges in practice also occur when teachers from different schools convene to score assessment tasks together” (Murnane & Levy, 1996 as quoted in Darling-Hammond, 1997, p. 237). In these sessions teachers gain information about how students perform in other settings, providing the opportunity for the teachers to rethink their pedagogy and provide their students with new opportunities (Aness, 2003; Darling-Hammond, 1997; Little, 1999).

Lieberman & Grolnick’s (1996) study of sixteen networks determined that networks allow participants “to label, share and discuss their work experiences and to grapple with problems in depth and immediately, to get multiple perspectives, with others who have common struggles and goals” (p. 52). Learning communities, particularly benefit, as networks tend to support collaboration, integrated change, facilitative leadership, multi-perspective thinking, and teachers challenging each other to develop new ideas rather than administrators prescribing actions (Lieberman & Grolnick, 1996). The support of such networks provides time for schools to make the cultural change to collaboration and inquiry.

In exploring schools involved in the original Annenberg Challenge (a reform effort for urban schools), Smith and Wohlstetter (2001) suggest that reform networks of schools may be an effective support to sustaining reform also. The Challenge required schools to network together; forming a consortium to hold each other accountable, as well as to support enabling activities. In such a network, authority and accountability are based on the social relationships of the members of the network so that schools sustain efforts out of a sense of obligation to each other. Goldenberg (2004) suggests that these social

relationships may even be one part of a solution to sustaining change at a school when people key to the reform effort leave.

Schools or teachers connected, as a network, by a shared vision and regular communication can provide not only support, but also challenge to one another's ideas (Ancess, 2003). By acting as "critical friends," members of the network can offer critical feedback through structures of school visits and protocols, which also support by recognizing and celebrating successes when they occur (Ancess, 2003; Little, 1999; McDonald, et al., 1999). An outside perspective can identify aspects of the organizational and relational environment that may be hindering the change effort, yet are so much a part of the school's culture that the members of that school community do not discern them.

The interconnectedness of the elements that make up the relational environment fits well with the ecological metaphor. Tending to the complexity requires a commitment of moral purpose to creating a better learning environment. It is this conviction that will begin the relationship building of setting norms or new ways of conversing by learning to use protocols to frame conversations in which multiple perspectives are valued and respected. It is this acceptance of diversity as a strength that continues to develop the supporting and challenging actions that deepen personal mastery and increase team learning. Interwoven with this is a focus on using data with a long-term focus and a reflective stance as a measure of accountability to students and the larger community. It is the realization that enablers are required to expand our thinking and skills to build this learning community. To develop the synergy of a living system, these interdependent factors can not work at cross purposes. Rather there must be a coherence of effort.

Coherence

As discussed earlier Taylor (2005) noted the importance of a fit or alignment between the philosophy of the reform effort and that of the school to ensure success. Goldenberg (2004) expanded the alignment to be between all factors that impacted learning at school. New American Schools, a support provider to a number of CSR efforts, in looking back at their work during the last decade have come to the same realization. All elements of a reform intervention, professional development, instructional strategies, indicators of success, culture, and community involvement must work together to provide the coherence necessary to sustain change (Berends, Bodilly, & Kirby, 2002).

Taylor's (2005) research notes the need for coherence not only at the school, but also at the district office level through its support of the school efforts. This makes sense based on Meier's (2000) contention that innovative schools need to expend energy on obtaining waivers and adjustments from rules and regulations designed to standardize schools (the one-size-fits all mindset of our modern worldview); energy that could be used to further the school's objectives. A district whose vision aligned with the school would decrease the possibility of frustration and burn out on the staff from such efforts.

It was this coherence that Pritchard and Marshall (2002) found in their research on "healthy" districts that had improved student achievement. The commonalities they determined by examining 18 sample districts from a pool of 100 included professional development that is integrated into the life and purposes/goals of the district as a whole. While the healthy districts provided time and support for professional development, there was also an expectation that all staff members would continue to learn on their own. In

other words, both the organizational and relational aspects of the institution support a norm of continual, career-long learning by staff members.

Fullan (2005) also contends that not only must there be a coherence between the efforts of the school and the district, but also that of the state, as it is many state regulations that govern practice in schools. Fink (2000), Goldenberg (2004), and Ouchi (2003) extend this idea of coherence to developing support from the wider public community in order to decrease the challenges to change.

It is this sense of a coherence between the school environment and its structures, the professional development of teachers, the leadership, school goals, and professional culture that begins to move us from the modern world view conception of “fixing” each teacher to that of a holistic approach to not only school reform, but also learning.

This section on environmental factors identifies those elements that support a learning community and a learning process of collaborative inquiry. This completes the framework for evaluating the development of learning communities. As with the other tables, Table 4 lists the five environmental factors that make up the third part of the framework in the first column. The second column then identifies possible indicators of the presence of those factors found in the literature reviewed.

Table 4

Learning Community Framework: Environmental Factors

Environmental Factors	<i>Which might appear as...</i>
<i>Collaborative Structures</i>	Time allotted for teacher collaboration or inquiry Funds for teachers to present and attend conferences Communication structures to enable professional conversations
<i>Administrative Support</i>	Structures faculty meeting for practice of five disciplines Provides structures noted above Alignment between district and school efforts
<i>Relational Integrity</i>	Collaborative goal setting Professional development choices support school goals Use of protocols or other conversational tools
<i>Enablers</i>	External eyes and ears are available to staff Staff attend networking opportunities with others Staff involved in list-serves or other professional conversations
<i>Coherence</i>	Professional development choices support school goals Classroom practice and school practice are aligned Alignment between school and district efforts for change Staff and students both employing inquiry

Application of Learning Community Framework

The complexity of a learning community requires looking for evidence of multiple factors working simultaneously, interdependent relationships, and some learning process that forms the basis for the decisions in the community working toward its goals. This chapter outlined a framework by which the development of a learning community could be discussed. In summary these characteristics, practices, and factors are:

- 1) Senge’s five disciplines being practiced, as well as shared values, collaboration, deprivatization of practice, reflection, and on-going

- inquiry;
- 2) Collaborative inquiry including collaboration, inquiry stance, using data, reflecting, and public sharing of knowledge;
 - 3) Organizational structures such as time and space for meeting, resources for collaborative inquiry and learning, administrative support of inquiry; relational elements such as communication structures, respectful conversation and use of protocols, accountability to each other's learning, supportive and challenging interactions, accountability to long-term focus on student learning, and use of coaches and networks; coherence of all these working in tandem towards the same goal.

The next chapter outlines a study of four schools that participated in one of the early CSR reform efforts the intent of which was for schools to become learning communities. Few studies have been done that examine the impact of reform efforts over time, so this adds to the body of knowledge of sustaining school reform efforts described in this chapter. More uniquely this research studies a reform effort that attempted to develop learning communities, providing an additional study to those of the various other CSR efforts. Lastly, this study applies the framework developed in this chapter from the theoretical underpinnings of learning communities to actual schools. In doing so, this research will apply this framework for the first time to evaluate schools as learning communities, as well as frame a conversation about sustaining the work of school reform when the outcome is to develop dynamic, ever-changing learning communities.

CHAPTER III

METHODOLOGY

Overview

Similar to a methodology employed by Coe (2000), Florian (2000), and Coburn (2003) this collective case study examines the current impact of a prior intervention. Florian (2000) considered the factors that were influential in sustaining a state-sponsored reform effort in four districts, returning nine years after the effort began to see what practices supported by the reform were still in place. Coe (2000) studied the impact of an in-depth professional development experience by following up with those involved ten years after the experience ended. Coburn (2003), as part of her redefinition of scaling up in school reform, examined schools two years after the end of a four-year reform effort to explore sustainability. This study examines the development of four schools as learning communities four years after a four-year effort to begin that development ended. As do the three studies above, this study considers the current status of these schools as learning communities, including what has sustained and what has changed over the four years, as well as those factors that may have influenced that status. Data were collected through interviews, document analysis, and observations of its purposeful sample of schools. The analysis of the data uses a phenomenological approach to draw conclusions. Conclusions are supported by the use of triangulation protocols and member checks (Stake, 1995).

Rationale for Case Study

Currently experimental designs with separate treatment and control groups,

randomly assigned, are touted as the gold standard for educational research by The Institute of Education Sciences (2003), an agency of the United States Department of Education. Even in the complex social setting of a school or classroom, such a methodology can provide some guidance for questions about what works best (Borman, 2002). However, such a design can also be limiting, especially in school reform situations, in that it is subject to Borman's (2002) "black box" dilemma, where we have the knowledge that the reform works, but not how it works. To answer the how question, or questions about how to strengthen the efficacy of an intervention, other research methods need to be employed.

A case study approach, one such method, involves an in-depth examination of a phenomena (McLaughlin & Talbert, 2001). This type of examination is necessary when studying phenomena that involve human interactions which, as Stake (1995) reminds us, are rarely "simply caused and usually not caused in ways that can be discovered" (p. 39). A case study offers us the opportunity to recognize the occurrence of multiple simultaneous actions in order to begin to understand their interrelated nature (Schostak, 2002). As Goldenberg (2004) argues in his case study of a single school's reform effort over time, case studies permit a more detailed description and analysis not afforded by other forms of research. It is this more detailed accounting that lets us answer the 'how' and 'why' questions so important in understanding how schools change that makes this methodology particularly useful here.

This study describes the long-term effects of a whole school reform intervention in order to raise questions about the impact over time of the interacting elements

developed during the school change effort. A close study of events, documents, and interviews, characteristic of a case study, explores the uniqueness of those interactions that is critical to understanding that development. I examine four schools that had been developing as learning communities to determine their current status regarding that development; where are they now and how did they get there? As the case study format studies the uniqueness of a set of phenomena or permits us, as Stake (1995) articulates, “to sophisticate the beholding of it” (p. 43), it is an appropriate methodology to answer the questions posed by this study since they require an examination of complex human interactions (personal, social, institutional), multiple events, historical events, and the interplay of each of these, all of which impact the development of a learning community. An experimental design would be impossible here, as the treatment has already occurred, but the school reform effort can be studied retrospectively through a case study methodology.

Case studies often consider a single subject or event. I chose a collective case study (Stake, 1995) where multiple cases are considered because the original reform effort involved the schools operating as a network to support each other in becoming learning communities. In this follow-up I explore a subset of schools from that network, collectively, in order to discover if any aspect of networking continues to impact their development. Stake (1995) indicates that finding patterns is an element of the analysis in a case study. A collective case study allows for finding the same pattern in multiple schools thereby lending credibility to the significance of the pattern.

The choice of case study for this research also fits well with the orientation of the

researcher towards this work. First, I have a strong background in ecology. In ecology one looks at the whole picture, seeing the elements of the ecological whole and the complex interrelationships of those elements. Viewing and understanding the complexity of ecological systems is what intrigued me most in the field of ecology. My approach to school reform comes from the same perspective and my interest in understanding it flows from a desire to understand its complexity. For me the study of school reform must expose that complexity. This is particularly important in this study as the effort to develop learning communities is multi-faceted (engaging with cultural critique, collaborative inquiry, data-driven decision making, group theory and learning, etc.). I feared that employing a research methodology that included statistical analyses to describe those complexities would, in the operationalization of the elements that characterize learning communities, result in a loss of the nuance and meaning of the phenomena. The case study is about uncovering the nuance and meaning.

Second, I had an active involvement in the school reform effort, so being an impartial third-party was not possible. My involvement included being a school change coach to some of the network schools, a facilitator for workshops and retreats attended by all the IESN member schools, and grant coordinator for the reform effort. Since I have a personal relationship and involvement with the schools under study, the role of participant researcher (Lofland & Lofland, 1995) makes the most sense for me. This relationship provided me entree to be a participant observer and to do the intensive interviewing required for this study (Lofland & Lofland, 1995). Although my objective stance or ability to separate myself from the schools can be questioned as a participant

researcher, I prefer to follow the conception of researcher involvement from the perspective of Davis and Sumara (2000) who view educational research as research in which both participant and researcher are working together to answer questions about what works. Since I was part of the network, a role of researcher that “requires a willingness and an effort to formulate one’s place in the community and, reciprocally, to allow that community to become part of the research” (Davis & Sumara, 2000, p.120) made sense for me. In the research approach used by Davis and Sumara, the participants and the researchers would together develop the intervention and its study. As this is a study following up on an intervention that has already occurred, I did not have that same level of participation in designing this research. The relationship described by Davis and Sumara does closely align with the relationship the schools and I had during the design of the intervention itself, however.

Third, I bring a constructivist orientation to my work as an educator. Though my strong science background makes me comfortable with experimental design, my experience with human institutions makes me realize the limits of that research methodology. In attempting to make sense of the world, each person uniquely constructs their understanding of it. The work of the reform effort asked people to reexamine their constructions of their professional world. My role as a participant researcher using a case study methodology allows me to capitalize on my relationship with the participants to interrogate more fully their constructions, than I could with an experimental design that required a more objective stance on my part. My first-hand experience of the context in which these constructions are developed also aids my analysis and interpretation of these

constructions, which is important because the “ongoing interpretive role of the researcher is prominent in qualitative case study” (Stake, 1995, p. 43).

Participants

Indiana was one of the states involved in ReLearning, the first large scale effort to introduce schools to the principles of the Coalition of Essential Schools (CES). Between 1992 and 1997 over 140 schools in Indiana explored the principles with a focus on the systemic nature of school culture and instruction (Blackwell, 1996). ReLearning fostered school change that directed schools to develop as learning organizations. This fostering included an initial year-long, self-study experience titled “TREK” during which school staff studied the principles and their culture (Shank, 2000).

In 1997, ten of the ReLearning schools in Indiana joined together to form Indiana Essential Schools Network (IESN) which applied for and received funds from the State of Indiana to pursue school change to improve student learning. The length of involvement in the ReLearning effort varied for these ten schools (five high schools, one middle school, two 1-8 schools, one elementary school, one 1-12 school) but all had made progress toward the goal of implementing the principles. In addition to their TREK experience, all ten had been involved in summer professional development experiences that focused on issues of teaching and learning and collaborative inquiry. For four years, through 2002, these schools focused on the following goals in the reform initiative titled “Inquiring Collaboratively about Standards-based, but not Standardized Learning for All Students.”³

- A: Teachers will engage in an on-going cycle of inquiry each year about improving the quality of student work guided by the Indiana Standards.
- B: All school improvement plans, curricula, and assessments designed by CIG members will be aligned with Indiana standards.
- C: In addition to standardized test scores, all students will provide evidence, such as performances or exhibitions, of movement toward or achievement of Indiana standards.
- D: The network of schools provides opportunities for critical feedback, exchange of ideas, and accountability to individual schools to increase their learning and deepen their inquiry about student achievement and quality.

(IESN Educate Indiana Proposal, Years 2000-2002; the goals for the first two years of the funding were similar, for exact wording see Appendix B.)

The central element of the reform effort was the collaborative inquiry group (CIG) at each school comprised of teachers meeting twice monthly to share inquiries into their own classroom practice. A school change coach was assigned to each school to assist the CIG with the collaborative inquiry process and the school with using the CES principles to guide their change efforts. Workshops during the year focused on assessment and data analysis, while a week-long summer retreat dealt with issues of learning and teaching. Lastly, schools shared their understandings at an annual conference. (More detail on each of these can be found in Chapter IV). Over the four years that the network received its funding from the state, the members of the consortium changed, but there were six schools that remained constantly involved.

On choosing members of a collective case study Stake (1995) states that while “[b]alance and variety are important; opportunity to learn is of primary importance” (p. 6). The best opportunity to learn would be from those who were most fully involved in planning, participating, and completing the reform initiative activities, thus representing

the fullest level of implementation of the reform. This requires the use of a purposeful sample.

In determining most fully involved I considered length of participation, level of participation, and completion of reform activities. Reform efforts need time to work so only schools that participated all four years were considered. School reform works when teachers participate in the learning experiences, so schools that had teachers at all of the events over four years were part of the pool. Success of reform efforts is also tied to implementation of reform activities so schools who maintained portfolios, had a collaborative inquiry group that met regularly, and completed inquiry projects were considered.

Of the six schools that were involved for four years, five met all three criteria of the purposeful sample. They also represented a variety of school types: large comprehensive urban high school, large comprehensive rural high school, small town 1 - 8, urban K - 8, rural K-6. I then eliminated the last school (K - 6, rural) as it had only three teachers participating the full term of the initiative, and only one of those remained at the school at the time of the research, so it was not likely that the impact of development during the reform effort had been sustained in the years following the intervention. Their inclusion in the study would not enhance the opportunity to answer the research questions and their exclusion did not detract from the balance of elementary and high, urban and rural, large and small.

A similar argument can be made for a purposeful sampling of teachers for the group interviews and observations. Those teachers chosen to be part of the focus group

interview participated during at least two of the four years of the reform effort, with the majority participating three or four years. As participation in the initiative was voluntary, those that stayed the course represented teams dedicated to change. These teachers, therefore, do not necessarily represent the faculty at large, but since they were the ones most fully involved, they would potentially have the most insight to offer in the follow up research.

Teachers for the individual interviews were chosen according to the same logic. Even within this group of teachers who were dedicated to school change there were those who actively pursued change and new options and those who were hesitant, but amenable to change, waiting for others to lead the way. (There were no resisters to change among the teachers who were part of the CIGs.) To learn as much as possible I chose to interview teachers from each category at each school. This offered a range of perspective on the development of the learning community after the reform ended. To approximate this range I listed teachers from each school who were in the vanguard of requesting, and participating in, the reform effort (e.g. they were part of the original group that designed the initiative and wrote the grant proposal) and those who were invited or nudged to participate by one of these vanguard teachers. From this small pool of potential individual interviewees, I then chose teachers to represent a range of subject areas and grade levels across the schools. In the end six teachers were interviewed because the teachers from Pierce declined to do individual interviews. Brief descriptive information on each of the six teachers can be found in Table 5.

Table 5

Characteristics of Six Teachers with Whom Interviews were Conducted

Teacher	School	Category	Grade/Subject	Experience
Teresa	Thoreau HS	Vanguard	Foreign Language	25 years
Tom	Thoreau HS	Invitee	History	7 years
Sally	Emerson (K-8)	Vanguard	Primary	28 years
Jolene	Emerson (K-8)	Invitee	6 - 7 Science	7 years
George	Dewey (1-8)	Vanguard	5 - 8 Humanities	16 years
Dan	Dewey (1-8)	Invitee	K-8 Art	9 years

Description of the Schools

The four schools chosen for this study had a number of similarities. Each had a core group of 7 - 10 participating teachers that remained constant throughout the four years. All four also had principals that supported involvement in the initiative, though the principal for each school only occasionally attended events. Each of these four schools had the same school change coach for all four years, though it was a different coach for each school. As noted earlier, each school regularly participated in IESN activities and completed all necessary documentation. Demographic information for each school is contained in Table 6 and a brief narrative of each follows.

Table 6

School Demographic Data

Demographics / School	Dewey	Emerson	Pierce	Thoreau
Student Population	176	290	2269	910
Staff (Full Time Equivalent)	12	26	163	78
Free/Reduced Lunch (% of total pop.)	48%	72%	32%	15%
White (as % of total population)	75%	5%	75%	92%
Black (as % of total population)	9%	89%	8%	0%
Hispanic (as % of total population)	6%	2%	14%	6%
Asian (as % of total population)	5%	0%	1%	0%
Multi-racial (as % of total population)	6%	4%	3%	2%
Attendance Rate	94.9%	95.8%	95.4%	95.1%
ISTEP Pass Rate	60.2%	42.8%	60.5%	70.6%

Dewey

Dewey is a small “school of choice” (open enrollment with a lottery for admission for any interested student in the district) within its small city district. The school was opened by a small group of teachers as a multi-age CES school fourteen years ago. It has grown from a grade 1 - 5 school when it opened to its K - 8 configuration today. Dewey has focused on developing a caring and democratic space in which to educate students. They use the term “CARING” as an organizer and one sentence description of their community:

“[Dewey] is a
Challenging,
Accountable
Reflective
Informed
Nurturing
Global
community.”

A key focus for the school is a democratic atmosphere where parents, students, and staff collectively set direction for the school through town hall meetings and site-based decision making. The district and state curriculum are taught though students are organized by age into one of four groupings: six and seven year olds together, eight and nine year olds together, ten and eleven year olds together, and twelve and thirteen year olds together. This represents a change that occurred in the last year, where previously there were three groupings and ten year olds either remained with the eight and nine year olds or were grouped with the eleven, twelve and thirteen year olds. All the content is taught in these groupings with the exception of math. During the daily math time, which occurs at the same time for the whole school, students are grouped by level of accomplishment.

Through the end of the reform effort, the staff were all the original staff with the exception of one. That teacher who was the acknowledged “founder” of the Dewey moved away and was replaced by a teacher moved from another building by the district. It was not a voluntary move and did not successfully work out. Dewey staff then insisted on being involved in future hiring decisions and hired the person who replaced that teacher when she left after one year. Through retirements, Dewey now has half of their staff with

less than three years of experience at Dewey.

Dewey began with the support of the district superintendent (who retired two years later) and was designed to be an option for students in the district, though not considered a magnet program. Dewey has always had a waiting list for students to be in the lottery to get into its program. When it first began a good portion of its students had parents who worked at the small private liberal arts college located on the other side of town from Dewey. While not the only parents actively involved the parents who provided significant assistance to the development of Dewey came from this group. As Dewey has become more known in the district a more diverse student population has entered.

Dewey's leadership is vested in the staff and parents. During the early years Dewey was basically ignored by the central office and did not even have a principal. Administrative work was part of the work of the coordinator for the gifted and talented program as she was housed in the same building as Dewey. A new superintendent eight years ago, appointed that person as principal. A year later she was replaced by another, and every year thereafter Dewey has had a different principal.

While students at all levels learn the required Indiana curriculum there is a focus on developing independent learning skills. Students lead parent-teacher conference meetings and present a culminating exhibition of their work as a graduation requirement to the high school. A small video studio provides the opportunity for students to create and edit their own videos with class projects. The students in their last two years at Dewey participate in a weekly service project in one of a number of community placements (nature preserve, equestrian center, nursing home, etc.). Older students also

regularly tutor and mentor younger students.

During the reform initiative Dewey shared a former elementary school building with a pull-out program for academically gifted students. Dewey operated in the lower portion of the building which housed the gymnasium and cafeteria. The school did not have its own library so books were stored in the classrooms. Dewey teachers taught their own physical education classes but brought in specialists weekly to teach music and art. The staff of ten met daily during the grant project to discuss the students, the school community, and its activities. The building was located on the outskirts of town proper surrounded by small farms and grazing fields. Its campus included a small playground and a couple acres of lawn.

Just after the initiative ended, the district decided to move the sixth grade students back to the elementary schools and then close some buildings to save money. Dewey's building was closed and they were moved to the wing of one of the two remaining middle schools (one of the middle school buildings was closed). This was a disappointment to the staff and parents. Though basically self-contained on two floors of the one wing, the students did use the cafeteria, gym, library, and art room located in other parts of the building. There was also a city park playground adjacent to the school. Just before data collection for this study a new superintendent re-opened the closed middle school and moved Dewey to the second floor of that building, which they share with an alternative program for high-school aged students. This allowed Dewey to have a library of their own for the first time, as well as their own art room. The current building is located on the south side of town with a few acres of lawn for outdoor activities.

Emerson

Emerson is a magnet school of 300 students with a focus on environmental studies serving pre-school through 8th grade. It was begun sixteen years ago by five teachers and an administrator as a grade K - 3 school. Emerson began with a focus on building a participatory democracy in the school where students would have authentic experiences with democracy such as through regular school-wide town hall meetings. In line with this intent it employed a distributed leadership model with the staff. During its second and third years it added another grade level and then retained its K - 5 configuration until 1998-1999 when it added a sixth grade, with a seventh and eighth grade added each of the subsequent years. Recently a pre-school component was added. The democratic focus has continued even as Emerson applied to be a magnet school with a focus on the environment just as the reform initiative was ending (four years ago). Both foci are evident in their mission statement:

- ~ Develop students as active citizens and stewards of the environment
- ~ Develop the habits of democracy and civic participation
- ~ Provide an academically challenging curriculum that promotes independent learners and life-long learning.

Their beliefs support academic success, good citizenship, life long learning, an inquiry learning environment, student self-assessment, and the value of diverse perspectives.

To develop a program that met those beliefs and philosophy, the staff made the decision, during the reform effort, to move to a multi-age program from a single grade-level structure. After three years they adjusted to a looping arrangement where a teacher remains with the same group of students for two years. Emerson also instituted

C.A.R.R.E.T.S. (Creating a Responsible Respectful Environment That's Safe) program which regularly focused students through class meetings on understanding the school's "Ethos and Bill of Rights." Supporting its mission the ethos states:

[Emerson] is a safe learning place. My body, my feelings, and my belongings are free from careless or intentional harm. I know I am valued because I am treated with dignity and respect and I am learning to treat others the same. I celebrate the wonders of nature and do my part to protect it.

This ethos was supported by five articles that made up the bill of rights claiming the right to safety, learning, peaceful conflict resolution, and respect for person and property.

One of 82 schools in its urban district in a large metropolitan area, Emerson is uniquely located on 39 acres of rolling wooded property with a creek running through the property. Adjacent to their property is a small private college, a large city park, and a freeway. The attractive campus consists of five buildings, one of which is a former mansion of a wealthy local family, is listed on the National Registry of Historic Places, and now houses the professional development offices for the district as well as Emerson's environmental resource center. The main building was built in 1958 as a school and includes the gym, cafeteria, and library as well as classrooms and main office. A second building, the former carriage house and servants quarters for the mansion, houses the fourth and fifth grades. Emerson has a greenhouse and playground built in 1993 by the school community to include swing sets, climbing bars, and slide, as well as fitness stations. There is also a tennis/basketball court that was cleaned, paved, and repainted by the school community to add kickball lines, four square court and hopscotch games on the

paved area.

Emerson's principal has remained the same since the grant began and is only the second principal since the school was opened. The principal actively pursues grants and external funding to support professional development for teachers and provide resources for the school to meet its goals for students.

Pierce

Pierce is a comprehensive high school, the sole high school for the mid-size city in which it is located. It offers a wide range of opportunities for study, including a wide array of vocational offerings to its student population of 2300. It has been named a National Blue Ribbon School of Excellence in 1985 and 1993, as well as an Outstanding Successful School (an award from a state-wide teacher education organization) in 2004.

The school's mission statement is:

[Pierce] High School, a partnership of staff, students, and community, educates students to be successful by helping them gain knowledge, develop life-long learning skills, practice responsible citizenship, and develop positive self-images.

This statement is supported by belief statements that students deserve a safe environment in which to learn, a relevant and rigorous curriculum, qualified staff, and necessary resources. Pierce enjoys a large number of relationships with local businesses, natural resource organizations (conservancy areas, state parks), the community college, and a large research university in the community.

The school uses a Block 8 schedule in which periods are 90 minutes and teachers

see their classes every other day, which schedule was determined by the staff in the mid-1990's to be the best option for student learning. Currently it is developing Career Academies, a sequenced series of courses that prepare students for specific careers or career areas. The current academies are: Arts and Communications Academy, Business and Technology Academy, Life-Centered Achievement, Political and Social Sciences Academy, and Science and Mathematics Academy. Within each of these academies are a set of sequence of courses designated as pathways to specific areas. For example the Business and Technology Academy has the following majors:

Automotive Service Technology	Information Technology
Childcare	International Business
Construction Technology	Management and Entrepreneurship
Cosmetology	Manufacturing and Processing
Finance	Marketing
Food Service	Textiles and Fashion
Health Services	Travel and Tourism
Housing and Interior Design	General Studies in Business & Technology

The large size of the staff in this school made it challenging to effect school-wide change through the reform activities, as only a small percentage of the entire staff was able to participate in activities. Many of that small percentage, however, had and still hold leadership roles within committees and departments influencing direction to this day. Of the 142 certified staff members, 71% have at least a Master's degree. Teachers are organized by departments: Band, Business Technology, Choral, English, Family Consumer Science, Mathematics, Physical Education, Radio/TV, Science, Social Studies, Technology Education, Vocational Education, and World Languages. A specialist heads

each department to articulate curriculum, improve instruction, and manage department budgets. The administrative staff consists of a building principal, three associate principals, and two assistant principals. The principalship at Pierce changed just as the grant ended and that principal remains in place today. The principal has increased contact with the parents and community, instituting a Community Advisory Council. The staff is rounded out by six counselors, one vocational coordinator, one and a half nurses, a media specialist and 93 non-certified staff.

Pierce's campus is located on the edge of the town proper and adjacent to one of the middle schools. A large building, built in 1970, houses all classrooms, vocational areas, gymnasium, cafeteria, library, TV/radio media center (including an operating radio station), swimming pool, and center for the performing arts (including practice rooms and a dance studio). The large campus includes a football stadium, tennis courts, and baseball field, as well as a large open lawn dotted with mature trees.

Thoreau

Thoreau is also a comprehensive high school, and the sole high school, though in a small town (8,000 residents) in a rural setting. Like many schools in rural areas Thoreau is a result of a consolidation of several small high schools in the late 1960's. The school is guided by a district mission statement and learning standards that were developed and adopted through a broad-based school community process. Its mission statement reads:

The mission of the students, teaches, parents, and administrators of [Thoreau] High School is to be personally and collectively responsible to learn, grow, and succeed in our constantly changing world.

This mission statement is supported by four learning standards in the area of communication skills (speaking, writing, reading, listening), problem-solving, use of technology to gather information, and life skills of cooperation, independence, respect for others and property.

Thoreau also uses a Block 8 schedule, a collective decision made by the faculty to provide extended time for teachers and students to pursue topics in depth. The curriculum has a progressive sequence of courses in math, science, history, English, and foreign languages, with Advanced Placement courses in all these areas. Additionally there are vocational courses in business, agriculture, law enforcement, health occupations, and auto mechanics.

Thoreau's 73 certified teaching faculty are divided into traditionally delineated departments: language arts, foreign language, business, mathematics, science, social studies, practical arts, physical education, guidance, vocational, special education. Each department is led by a department head, who collectively meet together with the principal on a biweekly basis. The principal that had been present through the ReLearning years and the initiative retired two years before this study was conducted, having been principal for over 30 years. The current principal had been his Assistant Principal during the last two years of the reform effort, but was not involved in any of the activities.

The Thoreau campus is located on the edge of the local town on an 80-acre site. The building was built in 1967 with state-of-the-art facilities and underwent a major renovation in the years following the initiative. The building is well-maintained and

houses an open-space cafeteria, library, 700-seat auditorium, two gyms, swimming pool, wrestling and weight rooms, indoor rifle range, band and choir rooms, kilns and darkrooms for art, a planetarium and observatory, and an up-to-date computer and video technology lab. The campus includes a softball diamond, baseball diamond, tennis courts, soccer field, track, cross country course, and football field. Just north of the property is a pond and wildlife preserve. Adjacent to the high school is the middle school which is connected by a covered walkway. On the campus is also a building which houses the district administrative offices.

Methods of Data Collection

Following a pattern used by Coe (2000) this study reviews available data from the implementation of the project and recently collected follow-up data. The data from the implementation phase which comes from a document review of school portfolios, meeting notes, interview transcriptions, and public presentations made during the years of the reform effort, provides both a frame for the intended purpose of the school reform effort, and allows for the comparison of learning community development at the end of the reform initiative to its status now, four years later. This review also provides an opportunity for the author, who was involved with the reform effort, to analyze the data from the implementation phase with a new perspective wrought by the passage of time.

Data for the follow-up came from interviews, document analysis, and observations of practice. Group interviews were conducted at all of the schools, along with interviews of individual teachers. Current school improvement plans and

professional development plans were reviewed for the presence of the characteristics and processes of a learning community, as well as the necessary environmental factors. Lastly observations of decision-making meetings were observed for the presence of practices and processes associated with a learning community.

Implementation Phase Data: Document Review

The documents reviewed for this portion of the study were all original documents in the files of the Indiana Essential Schools Network. All schools in the study were notified that in agreeing to be part of the study, documents submitted to IESN during the reform initiative would be reviewed and become part of the data collection process. The first set of documents reviewed were the occasional and annual reports from each of the CIGs. These reports included CIG goals, input for workshop topics, and proposed activities of the group at the summer retreat or annual conference. A second set of documents were the minutes/notes of CIG meetings that recorded the activities, decisions, and discussions (to a limited extent) from the meetings. Third were the school portfolio or school improvement plan and the professional development plan for each school, which collectively described the school (achievement data, program offerings, activities), its plan for improvement including goals and activities to meet those goals, and the professional development necessary to accomplish its plan. The last set of school documents reviewed were their publicly disseminated brochures, such as student handbooks or informational brochures, found in the IESN files. Additionally notes from school change coach meetings, responses from interviews conducted by school change

coaches during the project, and planning documents from IESN professional development activities were reviewed. All information collected from these sources was recorded in an anonymous fashion. (A complete list of documents from each school can be found in Appendix C.)

The historical documents were reviewed to answer the following questions:

- ~ What did IESN expect the learning community to look/act like?
- ~ At what level of development as a learning community was each school?
- ~ How were teachers interacting as colleagues?
- ~ What were teachers doing to learn about learning and teaching?
- ~ In what ways did student learning impact the professional work of teachers?
- ~ How were multiple perspectives and dimensions of change evident?
- ~ What organizational supports for the effort were present?

These sources helped me describe the development of each of the schools, grounded in evidence, when the reform effort ended. Merriam (1998) raises three concerns with using historical documents for research: lack of availability, questionable usefulness for research as they were not generated for that purpose, and questionable authenticity or accuracy. As I had complete access to all IESN documents from the reform initiative lack of availability was not a concern. All materials in the IESN files for all schools was accessible, however, the amount of material per school varied.

Though not generated for this research the documents were of two types that made them useful to this study. First, they were collected in evidence of the impact of the reform effort (e.g. CIG meeting minutes of their work, interviews with participants about the impact of the reform, school portfolios that collected evidence of impact), thus that same evidence can be useful here in determining development of the schools as a learning community. Second, they were descriptive documents of events that took place within

IESN or at each of the schools. These provide the information to describe the context for the reform effort. This contextual information is valuable in analyzing the actions of the schools during the implementation phase and the manner in which the schools characterized themselves, both in terms of their development as learning communities.

As both the investigator and the grant coordinator I could attest to the authenticity of the documents as coming from the reform effort and by corroborating the documents in the IESN files with those in my personal files or those of other school change coaches. For this study Merriam's concerns of availability, usefulness, and authenticity can be accommodated.

Follow-up Data: Interviews, Observations, Document Review

Document analysis, interviews, and observations comprise the data collection methods for the collection of the follow-up data. The reform effort's emphasis on learning community considered issues of both whole school change and individual teacher practice, so data collection was both about effects on the whole school community, small working groups of school community members, and individual teachers. Analysis of school reform plans, accreditation documents, parent and staff newsletters, focus group interviews, and observations of meetings provided evidence about whether the whole school or small groups within this school had the qualities of a learning community. They also provided data of the contextual factors (e.g. how did the principal address the staff). Interviews with teachers provide data about individual impact to answer questions about whether teachers were engaging in classroom practices

engendered by the reform effort or practicing personal mastery, mental models, or systems thinking.

For each school the district superintendent was contacted to receive permission to do research involving the school. Permission was granted by the districts for each of the four schools. The principal and lead teacher (from the reform project) were then contacted at each school. The research was described and a request made for time to do a first group interview with the teachers who had been members of the CIG at that school. At the first group interview, the research question, study focus, and methodology were explained and consent forms were reviewed and signed by all participants.

Interviews.

Interviews permit the researcher to gain information from the perspective of another person. Group interviews were chosen to gain the perspective of the original CIG members, regarding the group element of this study (team learning, collaborative inquiry, systems thinking). A group format was chosen because the collaborative group was a key unit in the original change effort and I wanted the data collection process to access that unit. Additionally, this format permits comments from one person to jog the thoughts of another or raise a reaction. A semi-structured format was used for the group interviews. This allowed me to probe more deeply into responses to original questions. The core questions were reviewed by two coaches from the reform effort to ensure that the questions were addressing the aspects of learning community this study was exploring. The questions used for the first interview were:

- ~ What of the Network effort do you see as still being present or affecting your professional lives?
- ~ What is the legacy of the four-year reform effort?
- ~ What would you now add to the school portfolio you developed during the effort?
- ~ Would you describe your school/team as a learning organization? Why or Why not?
- ~ Of the following practices maintained for the four years of the grant, please explain why you continue to use them or why you discontinued them?
 - Collaborative Inquiry Groups –
 - Critical Friends Visit –
 - Data-based decision-making –
 - Conversation Protocols (e.g. Tuning Protocol, Consultancy, Save the Last Word, etc.) --

An additional round of questions was developed for the second interview:

- ~ The writings of Peter Senge were a basis for IESN’s theory of action. Senge spoke about schools as learning organizations in this way:

“It is becoming clear that schools can be re-created, made vital, and sustainably renewed not by fiat or command, and not by regulation, but by taking a *learning orientation*. This means involving everyone in the system in expressing their aspirations, building their awareness, and developing their capabilities together. In a school that learns, people who traditionally may have been suspicious of one another – parents and teachers, educators and local businesspeople, administrators and union members, people inside and outside the school walls, students and adults – recognize their common stake in the future of the school system and the things they can learn from one another.”

For Senge, the learning organization practices five principles:

- 1) Personal Mastery – “Personal mastery is the practice of articulating a coherent image of your personal vision – the results you most want to create in your life – alongside a realistic assessment of the current reality of your life today.”
- 2) Shared Vision – a focus on mutual purpose; “People with a common purpose... can learn to nourish a sense of commitment in a group or organization by developing shared images of the future they seek to create and the principles and guiding practices by which they hope to get there.”
- 3) Mental Models – “This discipline of reflection and inquiry skills is focused around developing awareness of attitudes and perceptions – your own and those of others around you. Working with mental models can also help you more clearly and honestly define current reality.”

- 4) Team Learning – discipline of group interaction; “Through such techniques as dialogue and skillful discussion, small groups of people transform their collective thinking, learning to mobilize their energies and actions to achieve common goals and drawing forth an intelligence and ability greater than the sum of individual members’ talents.
- 5) Systems Thinking – “In this discipline, people learn to better understand interdependency and change and thereby are able to deal more effectively with the forces that shape the consequences of their actions.”

How is your school similar or dissimilar to this description?

- ~ Is there any teacher/staff groups(s) (either formal or informal) of which you are part that match any of the description above? How close do they come to that description?
- ~ One major tool/activity during the four years of the Educate Indiana Grant - Standards without Standardization – was Collaborative Inquiry process. What aspect(s) of that process is still present at your school?
- ~ Are there reasons that the aspects in the question above are still present? Reasons for those that aren’t?
- ~ How did the Collaborative Inquiry Groups, a main structure of the grant activity, influence the activities of your school? Of any department or staff committees upon which you sit?

Additionally each group had questions unique to it based on an initial review of the transcriptions from the first interview. Transcriptions of interviews were shared with group members and a request made to review that their thoughts were represented and to add any additional thoughts that came to mind.

Individual interviews were used to gain an individual teacher’s perspective on current classroom practice, interaction with the whole school, and impact of those parts of the reform effort that had been sustained. Development and review of these questions was the same as that with the group questions and, again, asked in a semi-structured format. For the one person who had not participated in a group interview, the introduction to the study used for the groups was repeated.

Questions asked during the first interview were:

- ~ In what ways do you inquire about the teaching and learning in your classroom?
- ~ In what ways do you collaborate with your colleagues? Your students?
- ~ What are ways you have changed the teaching/learning process in your classroom in the past year?
- ~ How do you see those changes connection to the efforts of the school/team to become a better place?
- ~ What would you now add to your teaching portfolio that you developed during the effort?
- ~ What are ways that you have supported or challenged your colleagues?

Questions for the second interview were uniquely developed for each teacher based on a review of the transcriptions from their first interview. All interviews were scheduled at the convenience of the interviewees and all were audio-recorded and transcribed. Transcriptions were reviewed by those interviewed with a request to check that their comments represented what they had intended to say.

Group meeting observations.

I observed group settings where a school-wide decision-making process was occurring to provide data on actual actions of schools as learning community, to compare with spoken and written depictions. At these observations I explained my purpose for being there and reviewed the human subjects research information statement. Field notes were recorded regarding the context and content of, and interactions between members at, the meeting. These notes were useful for answering these questions:

- Are the actions of the people at the meeting mirroring the intents identified in the focus group interviews and the original efforts? Particularly in regards to:
- ~ collaborative and group processes
 - ~ inquiry stance and data-based decision-making
 - ~ supporting comments/activities
 - ~ challenging comments/activities

~ acknowledgment of various perspectives or multiple dimensions of community

Document review.

Current school improvement and professional development plans were requested from each school. Additionally, other public documents (e.g. brochures, webpages, etc.) were collected during school visits or when in attendance at observations. These documents were examined for whether schools described themselves as learning communities or as engaging in those disciplines or processes of a learning community.

Data Collection Activities by School

Thoreau high school.

At Thoreau, two one-hour group interviews were conducted. In the first interview five of the original CIG members were present. At the second interview four of the original CIG members were present (though only two of those from the first interview) as well as one teacher in his second year at Thoreau. Two one-hour individual interviews occurred with Teresa and Tom, as well a single 20-minute interview with two additional former CIG members who requested interviews to talk more about the work of the reform effort. Teresa, a veteran teacher of 25 years, helped develop the original project and write the first grant. A former department chair, she is well-respected by the faculty and though not currently holding a leadership role in the school, exerts an informal influence on activities in the school. Tom, currently a department chair, has been teaching seven years.

When Tom started teaching at Thoreau during the implementation phase of the project he struggled, at first, to understand the ideals of the reform effort.

Two department chair meetings were observed in the fall of 2005 and field notes taken. At the first meeting there was a presentation on a new electronic test scoring machine the superintendent was considering for purchase. The second meeting, two weeks later, consisted of the discussion and decision not to purchase the machine, as well as announcements by the building principal.

Thoreau's school improvement and professional development documents were reviewed. The school improvement plan was also their accreditation document, as it was for each of the schools in this study. Additionally a 15-page brochure describing the district was examined.

Emerson pre-K-8 school.

At Emerson, two group interviews were conducted. The first interview was with three of the original CIG members, including the principal. The second interview was also with three, only one of whom was at the first interview. Emerson, somewhat a victim of its own success in developing teachers who were expert in literacy, had lost two key teachers to district-level positions as literacy coaches, so its group interview numbers were limited. Two single interviews, each two hours in length, were conducted. Jolene has taught for 28 years in the district, consciously working to teach every grade level, and was with Emerson since the year after it was started. She was one of the teachers who helped develop the reform project and now currently is a school literacy coach for the

district. Sally began teaching 6th grade science when Emerson first expanded beyond a K-5 structure. She moved to 7th grade as the school continued to expand, then became the environmental magnet resource person for the school. Sally was amenable to change, but still new to teaching during the reform effort.

During the year in which I was gathering data the long-serving principal at Emerson moved to a position at the district office. While the new principal indicated willingness to permit observations of meetings, she appeared overwhelmed with her new responsibilities and never responded to multiple requests for notification of those meetings.

Emerson's school improvement plan and professional development plan were reviewed, having just been updated. Also reviewed were a tri-fold brochure advertising the school, the latest iteration of a writing development continuum first begun during the reform effort, and documents from Emerson's multi-year professional development project on developing student writing.

Pierce high school.

Pierce teachers, in the end, were very reluctant to do any interviews, agreeing after repeated contacts to a single one-hour group interview only, though in the end it lasted nearly two hours and covered all the questions used in the two rounds of interviewing with the other schools. It also involved nearly every teacher who had been a member of the CIG, ten people in all.

The building principal granted permission for observations, so I observed two

decision-making meetings. Both meetings occurred in the early spring of 2006. The first meeting was a group of department representatives who were making a decision on the International Baccalaureate program, an internationally recognized rigorous curriculum. This meeting was led by one of the assistant principals, had a representative from every school department, and was an initial meeting to determine process for examining the program. The second was a committee of staff and community members who were advising the counseling department on a counseling program for the school and had been meeting monthly for nearly a year. Field notes on interactions and decision-making processes were taken, as they were with the other schools.

The school improvement and professional development plans were reviewed, as well as the 88-page “Curriculum and Academics” handbook, 25-page student handbook, and 8-page parent handbook. Handouts from each of the observations were also examined.

Dewey 1-8 school.

Both of the group interviews at Dewey included all four staff members who were part of the CIG and are still teaching at Dewey. Each interview lasted one hour. I did a number of individual interviews as the teachers were very interested in speaking with me. Two full one-hour interviews were completed with two teachers. First, with George who has been teaching for 16 years and was one of those who assisted in the development of the reform initiative, serving as Dewey’s contact person and facilitator during the effort. He has been at Dewey since its second year teaching humanities to the older students (11

to 13 year olds). Second, with Dan who has been teaching art for nine years and began at Dewey in the third year of the reform effort. By request, I also conducted two short twenty-minute interviews, each with a teacher new to Dewey in the past two years. These latter two interviews provided another “outside” perspective on Dewey’s attempts to be a learning community.

Two observations of Monday afternoon staff meetings were completed during the fall of 2005. For both, the entire staff of ten were present and each lasted nearly two hours. Field notes were recorded. Each meeting spent some time on general housekeeping details (e.g. dates of upcoming events, reminders of information to share with students, activities of the community service project). At the first meeting there was a discussion of content for an upcoming town hall meeting and coordination of math curriculum. The second meeting had a discussion that was precipitated by a discussion at a previous staff meeting and centered on developing a shared vision among the new staff community while at the same time honoring Dewey’s roots.

Dewey was just rewriting its school improvement plan during the year that the data was being collected for this study, so the document under which they were operating was the same as that developed in the last year of the reform. However, drafts of the new document were reviewed, though not all of it had yet gone through full staff review. The current 25-page student handbook and the current narrative report card were examined.

Data Analysis

In analyzing the data I developed two coding schemes. The first was developed

prior to the coding, coming from the review of the literature on learning communities. This considered those characteristics, habits, and supporting environmental factors of learning communities. It looked at the presence of these in order to answer the research question about whether the CIGs or schools constituted learning communities. This coding was done for the data from the implementation phase and the follow-up phase, with examples from the data being categorized as indicating the practice of five disciplines, engagement in learning processes, or presence of environmental factors. In addition, during the review of the current data sensitizing concepts were developed to make sense of the perspectives of the teachers about the influences on this development (van den Hoonaard, 1997).

Overall the approach to analysis of the data gathered followed Stake's (1995) conception that there is both an interpretation of individual instances and an aggregation of those instances from which some potential claim can be made. These two components work together to find patterns and coherence in the data. The interpretive analysis is phenomenological in approach and follows Patton's (1990) steps for that analysis: looking at data as if seen for the first time, reduction of the data, developing various potential meanings from the data, and lastly a synthesis of those meanings. As this was a collective case study, it used Merriam's (1998) two step process of analyzing data for each school independently and then considering those data across individual cases.

Interviews were transcribed and analyzed using an ad-hoc process of analysis as described by Kvale (1996). The ad-hoc process uses various methods of analysis when interacting with the data. Transcribed interviews were reviewed first using a meaning

condensation (Kvale, 1996) to represent the main idea of a section of interview. During a second review of the transcriptions, interview segments and the condensed main ideas were coded to indicate presence of the indicators of a learning community, a process of a meaning categorization (Kvale, 1996). It was this same activity that was used in the implementation-phase document analysis, now applied to the interview process. These indicators were charted and the number of supporting events was used to draw conclusions about the development of learning communities in each school. This counting of elements to make a determination on strength of presence of an indicator is keeping in line with arguments made by Ercikan & Roth (2006) that all educational research contains elements of both qualitative and quantitative research.

A third review of the transcriptions repeated the meaning categorization step, this time to categorize the perspectives of the participants on their development as a learning community. It was this set of categorizations that were then the basis for developing sensitizing concepts, temporary holding places of themes that seem to be emerging from the data (van den Hoonaard, 1997). The sensitizing concepts became a framework under which the analysis of the data took place using a constant comparative method “whereby various categories are constantly compared and contrasted as the data are being assembled” (van den Hoonaard, 1997, p. 40). These concepts were adjusted as additional data were reviewed and became the themes common across the interviews and integral to an understanding of the perceptions of teachers.

In-line with the phenomenological analysis described above, Kvale (1996) adds a step of re-interviewing once a synthesis has been reached. This step was accomplished

using member checks. Interviewees reviewed transcribed interviews and my preliminary analyses. Follow-up phone interviews were conducted in conjunction with the member check, when necessary. These provided additional clarification and a check on the validity of the conclusions being drawn.

Provisions for Trustworthiness

As a researcher I am concerned that others can rely on the research that I conduct. To this end I want to make my sure that there is accuracy in my work, a valid basis to my interpretations and findings, and a limit to my bias. Provisions to accommodate these involved triangulation, member checks, an audit trail, and acknowledgment of my perspective.

There were two steps to ensure accuracy of my data collection. First, as noted earlier, I was able to authenticate the documents that were reviewed. Comments from participants were recorded in writing by the participants and could be verified for the data set from the implementation phase. A small portion of the implementation phase data set were recorded comments from oral interviews or conversations. These could not be verified for accuracy for this research but they had been disseminated at the time to all participating parties and any corrections identified had been made, and it was a minimal portion of that data set. Second, for the data set from the follow-up phase, the documents were received directly from the schools so their authenticity was certain. The accuracy of the interview transcriptions was checked by a second person reviewing the typed and taped conversations.

Additionally, the accuracy of the interviews was subjected to review by employing member checks (Stake, 1995). In this step transcribed interviews and my preliminary analysis of those interviews were read by those interviewed, with a request for corrections and comments. This provided a check on both the accuracy of the data set and that of my interpretations. In addition, member checks provided additional information as interviewees clarified thoughts or responded to my ideas.

To strengthen the validity of my interpretations and findings, I used triangulation protocols as identified by Stake (1995). To answer my first research question about whether characteristics of a learning community are present I am interpreting whether a specific piece of evidence indicates the presence of a learning community element. For this question I used methodological triangulation, data source triangulation, and investigator triangulation. A data source triangulation was used for the data from the implementation phase. As I was limited to the written documents that were available, multiple source points were not always available to compare. Fortunately, there were some interview records to act as a check on the written. The data set from the follow-up phase followed a methodological triangulation where I collected data using the methods of interviewing, observing, and document analysis. My coding of the data and the emerging themes also underwent investigator triangulation when a second researcher read the transcribed interviews and reviewed the coding charts. The second researcher checked for agreement on placement of evidence and engaged with me in a discussion about the support I had for the emerging themes that I found in the data.

For the second research question about the factors that affected the development

of learning communities, I am making interpretations in developing the sensitizing concepts and themes from which I draw my conclusions about impacts on the development of the learning community. Validity of these conclusions depended on there being multiple incidents of supporting evidence across schools and teachers. These interpretations were triangulated, as with the coding of the data by another researcher. Lastly, a detailed description of my development of these themes and inclusion of the data that supports that development provides a transparency that permits the reader to determine the strength of the research.

As I was actively involved in the program I am researching concerns can be raised about potential bias I might have regarding whether the change efforts accomplished their goals. The first step in addressing this concern is my admission of involvement. The second is an ethical stance of approaching this study as if an outside observer. This rests upon my personal and professional credibility, that can be judged by those readers who personally know me, particularly my committee in their role of oversight. Third, even going in with the best intentions, cannot limit all bias. To that end I have employed tools to try to limit that bias. First, I used the investigator triangulation protocol noted above. Second, I provide detailed description of the development of my interpretations and the data upon which those interpretations were developed. Lastly, it should be noted that I had continual contact with the schools since the reform initiative ended and was aware that the reform effort had not continued as originally conceived. It is not my intention with this research to prove the effectiveness of the change initiative, but rather to explore where the schools are and what has impacted their development (or lack of) as learning

communities. In choosing this more exploratory focus I have lessened the impact of the potential bias.

Limitations

As this is a case study of just four schools from one state, the conclusions it draws are not readily generalizable to other contexts. Conclusions that are made are based upon a limited range of possibilities from these sites and it is probable that some important issues of schools as learning communities may have not emerged in this study. The schools do represent a limited range of schools, however each is unique and the relevance of the findings to another school depends on its educational setting and its similarity to the schools studied here (Florian, 2000, p. 3). Also though some conclusions are drawn regarding potential impacts on the development (or lack thereof) of learning communities, the research was not designed to determine causal relationships, but rather suggest possibilities for further research in this area.

In setting out to consider the development of schools as learning communities, this collective case study permits me to explore what practices and processes the schools are using, as well as what factors are impacting their development. Interviews, observations, and document analysis provide evidence as to the existence of those practices and processes, and the impact the environmental factors have upon their continued use. This data provides the information to ask additional questions about how schools develop as learning communities that are likely to be more fruitful in their pursuit. It also offers some insight into consideration of what sustainability means for a

school reform effort that intends to develop a school that continually grows or changes.

To begin that exploration we consider the development of each of the four schools at the end of the four-year reform effort in the next chapter.

CHAPTER IV

BEGINNINGS: IMPLEMENTATION PHASE DATA

This chapter describes the four schools in this study at the end of the reform initiative. By examining historical documents, minutes, notes, and interviews from the last year of the initiative, it determines the status of each of the collaborative inquiry groups (CIG) and school as a learning community. In answering the research question about the development of the schools as learning communities this examination sets a beginning point for the follow-up data that is examined in the next chapter. The examination here uses the characteristics and elements of a learning community that were outlined in Chapter II as a framework to describe the schools as learning communities. A school, then, would be a learning community if it exhibited all the characteristics/elements in each of the three areas of the analytical framework: the practice of the five disciplines, the use of collaborative inquiry as a learning process, and the presence of the supporting environmental factors.

This chapter begins with a description of the Indiana Essential Schools Network (IESN) reform initiative and the activities in which all the schools were involved. Following this description of the context of the reform effort for these schools, I examine the unique development of each school. The chapter then ends with a brief summary comparison of the schools as learning communities at the end of the four year change effort.

Indiana Essential Schools Network Reform Effort

The work of Fullan, Senge, and Dewey influenced the approach of IESN in developing communities to sustain a process of inquiry about the learning-teaching process and about the systemic culture that supports it. IESN's theory of action for change was designed to affect both classroom and whole school practices, as change to both was necessary based on the work of Fullan and Senge discussed in Chapter II. The democratic nature of Dewey's communities inspired IESN to structure itself as a democratic organization and fostered the development of IESN as a network of schools providing support to one another in implementing the Coalition of Essential Schools (CES) principles in their schools.

IESN's approach to change consisted of the following major components: collaborative inquiry, distributed leadership, coaching, and networking; each of which will be considered in the description of IESN's theory of action. As described in Chapter II, collaborative inquiry is a process through which each teacher inquires into her/his own classroom practice and shares what she/he is doing and learning with the entire group. Collaborative inquiry was the central action element for the schools in this study.

A collaborative inquiry process is central to our theory of action. Our model of learning, for both staff and students, is an inquiry model. Collaborative inquiry is a continuous, on-going data-driven model of professional development for educators. (IESN Theory of Action document)

The teacher inquiries collected data on student learning so as to better understand the symbiotic learning-teaching process. The group members, through feedback to each other and in discussion with each other, developed a deeper understanding of learning on the

part of students and of teaching.

The consortium did not define collaborative inquiry textually, rather it used the Collaborative Inquiry Cycle graphic as its working definition (see Figure 1). For IESN, the process was strongly influenced by Cochran-Smith & Lytle’s (1990, 1999) inquiry stance, Watson, Harste, & Burke’s (1989) conception of authors as inquirers, particularly the concept of publishing or exhibiting work, and IESN staff involvement in the conversation around development of an inquiry process within CES (Shank, 2000; personal communication, 2005). (See Cushman, 1999 for the development of the use of inquiry within CES.)

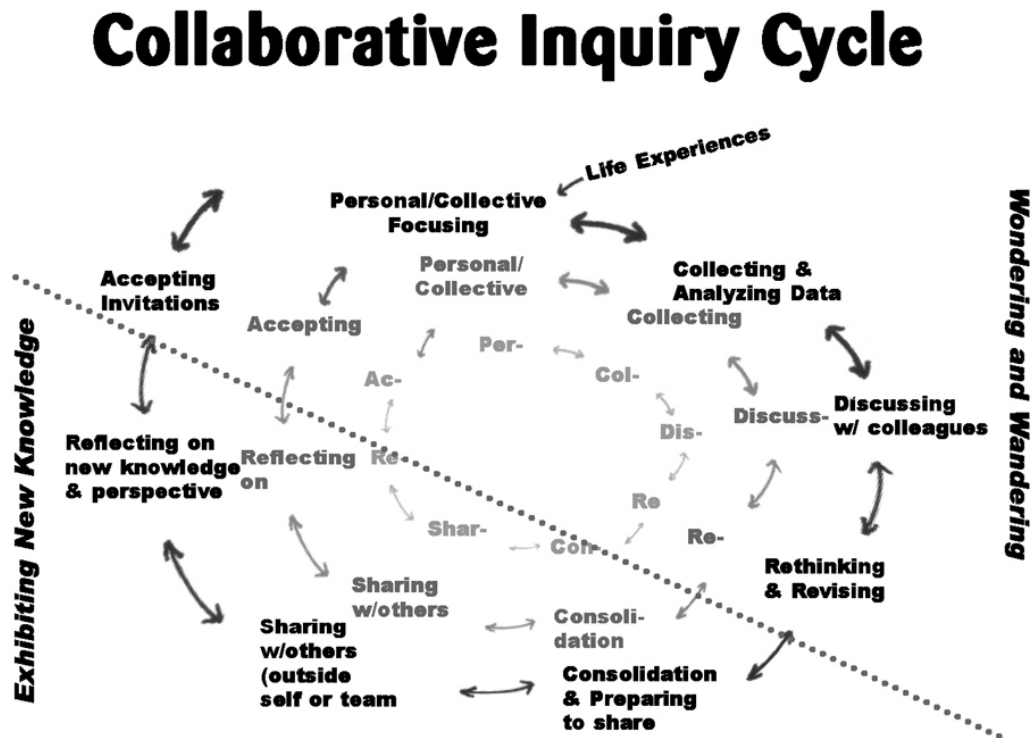


Figure 1: IESN Collaborative Inquiry Cycle

As seen in Figure 1, inquiring in the consortium was viewed as a spiral. First depicted as a cycle, as the consortium of schools came to better understand the inquiry process it came to be seen more as a spiral since the person starts off each time in a new place, a place of deeper understanding. (Even so, it continued to be termed a cycle.) This growth defines life-long learning, a characteristic of a learning community, and by definition an activity that is sustaining. The cycle begins with a teacher accepting the invitation to inquire (Cochran-Smith & Lytle's inquiry stance, 1991, 1999) and then focusing on a question about learning borne of the teacher's experience in the classroom. This is followed by a gathering of data that answers the question and an analysis of that data. A public discussion of that analysis is imperative, as teachers learn by giving and gaining critical feedback and constructing knowledge that impacts both the social and intellectual life of their classrooms (Cochran-Smith and Lytle, 1993). The cycle continues with reflection, rethinking, and revising practice.

This first "stage" of IESN's cycle was characterized as one of wondering and wandering (the activities above the dotted line). Inspired by the children's text *The Wise Woman and Her Secret* (Merriam, 1991) that describes the secret to wisdom as constantly being curious, this stage suggests a stance of openness to new possibilities. This stage is where teachers interrogated their mental images of the learning-teaching process through reading, experimenting, data analysis, and discussion.

In the second "stage" of the cycle (activities below the dotted line on the graphic) educators exhibited their new knowledge gained from the inquiries and discussions with colleagues. This was the part of the cycle inspired by Watson, Burke & Harste's (1989)

conception of publishing as a way of deepening thought during their authoring cycle. This stage suggests a willingness to assert one's personal mastery and so develop the pride necessary to support innovation (McLaughlin & Talbert, 2001).

The key structure through which collaborative inquiry occurred was the collaborative inquiry group. CIGs were designed to incorporate inquiry with five necessary inter-supporting elements for professional learning communities discussed in Chapter II: shared norms and values, collective focus on student learning, collaboration, deprivatized practice, and reflective dialogue. Teachers inquired into their own practice collecting data on student learning and then met together (collaboration) to discuss their inquiries into their practice (deprivatized practice) using protocols (norms for conversation) to keep the discussion student-focused and reflective.

The democratic nature of IESN's governance led to a distributed leadership model of decision-making. This sense of empowering teachers was an element of the theory of action and in line with the critical theory underpinnings of collaborative inquiry. While an understanding of distributed leadership was not given the same amount of attention as collaborative inquiry, it was developing in each of the schools, as part of the reform effort.

Coaching was introduced to support collaborative inquiry as the literature of the time suggested it as a key support to school reform. The school change coaches (mostly facilitators from the ReLearning project in Indiana) provided regular support to each of the CIGs and played the enabling role of "provid[ing] the encouragement, motivation and occasional nudging that many practitioners require to persist in the challenging tasks that

are intrinsic to all change efforts” (Moffett, 2000, p. 36). As reported by many of the IESN schools, just the presence of the coach was an impetus for the group to meet even when the daily life of school was pushing against it (IESN Membership Meeting Minutes, 7 May 2000). This accountability extended to ensuring that reform activities were accomplished, such as data collection, collaborative inquiries, and documentation.

Probably most importantly, these coaches, external to the staff, could provide an outside perspective valuable to the CIG members as represented by this comment from Thoreau’s CIG, “Having an external coach is vital to our growth. She has kept us thinking” (CIG report, 99-00). Costa and Garmston’s (1994) work in cognitive coaching provided direction to the school change coaches on how to provide that challenge to the beliefs and assumptions CIG members held. In line with this role, the external coach sought, in conjunction with many of the networking opportunities, to develop the capacity of people in each school to fulfill the role of support and challenge. IESN hoped that the coaching work could be sustained by either utilizing school faculty as internal coaches or the peer coaching capabilities of collaborative inquiry.

As IESN was conceived as a network of schools who would support each other it was natural that one component of the initiative would be for networking opportunities, to share ideas, provide feedback to one another, and collectively deepen thinking about school change. Staff from each school in concert with the facilitators, of whom the author was one, developed a series of professional development experiences and processes to examine student learning and school change, including summer retreats, a Spring Forum to showcase and discuss work in the schools, and a series of workshops on assessment

and data collection. By being teacher-driven and collaborative, student-focused and data-rich, ongoing, and based on the needs of the schools, these sessions had the characteristics of effective professional development (NSDC, 2001) thus increasing the chances of teacher learning (King & Newman, 2000).

These team learning opportunities for teachers to get away from their classrooms and meet with colleagues assisted with personal mastery. “The classroom is a powerful environment for shaping and constraining how practicing teachers think and act. Many of their patterns of thought and action have become automatic – resistant to reflection or change. Engaging in learning experiences away from this setting may be necessary to help teachers ‘break set’ – to experience things in new ways” (Putnam & Borko, 2000, p. 6). Collaborating with colleagues in a larger network supports and challenges teachers in improving their practice by offering additional perspectives and additional possibilities. For example, a teacher may realize in speaking with a teacher from another district that her expectations are lower or higher than they should be. Networking opportunities also offered a public accountability for CIG’s to document their inquiries and their reflections upon those inquiries. As expressed by Thoreau’s CIG, “the collaboration with other schools keeps us honest and challenged” (CIG report, 99-00). Network teachers were participating “in a professional community that discusses new teacher materials and strategies and that supports the risk taking and struggle entailed in transforming practice” (McLaughlin & Talbert, 1993, p. 15).

As inquiries led teachers to change classroom practice, these changes would inevitably require changes in whole school practice or structure. “Communities of

teacher researchers can play an essential role in school reform. Not only does their work add to the knowledge base on teaching, but their collective power as knowledge-generating communities also influences broader school policies regarding curriculum, assessment, school organization, and home-school linkages. Through teacher-research communities, teachers' voices play a more prominent part in the dialogue of school reform" (Cochran-Smith and Lytle, 1993, p. 83). It was upon this push from changing classroom practice to changing school-wide practice, changing classroom culture to changing school-wide culture that IESN's theory of action was built.

Many of the traits of a learning community were present in these schools because the schools were taking part in required activities of the initiative. Reform activities were designed to both introduce the five disciplines and collaborative inquiry while also providing practice in them. Table 7 presents the framework for a learning community developed in Chapter II and lists IESN activities completed by all schools that correspond with each element of that framework. (Please note that the data for this table comes from Indiana Essential Schools Network records of the events and reports filed by each CIG every year.)

Table 7. IESN Activities Organized by the Learning Community Framework

Five Disciplines	
Personal Mastery	Teachers completing inquiries into their own practice
Mental Models	(Work on mental models occurred during network events, such as Senge et al's (1994) Ladder of Inference (p.242-246), but no on-going initiative activities were directed towards it.)
Team Learning	Every CIG held bimonthly meetings and had at least 75% of the teachers completing individual inquiries.
Shared Vision	(Activities for developing shared vision were done early in the grant, but no on-going activities directed towards it.)
Systems Thinking	Consideration of whole school practices; student focus
Collaborative Inquiry	
Collaboration	Every CIG held bimonthly meetings
Inquiry Stance / Asking Questions	Teachers completing inquiries into their own practice. Each CIG focused on an inquiry question as a group.
Using Data for decision-making	Turning in all CIG records and summary reports to supply the data useful to the Network as a whole
Reflecting	All network events involved multiple instances of reflective writing or conversation. All CIGs speak of use of reflection, usually journals.
Sharing/Public Exhibition	Each school presented at least one (and most two) session at the annual Spring Forum state-wide / regional school change conference.
Environmental Factors	
Collaborative Structures	(The grant paid a stipend for teachers meeting on their own time.)
Administrative Support/Resources	(Other than requiring administrative approval, not part of grant.)
Relational Integrity	Use of conversational protocols for feedback
Enablers	Employing an external coach for CIG meetings. Sending a team to all IESN grant-related events: annual Spring Forum, annual "Network" summer professional development retreat, professional development days 3-4 times during the school year.
Coherence	Inquiries in each school supported a school goal. All network activities focused on CES principles.

As the cost for participating in all these reform activities was supported by a grant, and beyond the professional development budget of all the schools, it is reasonable to assume that the schools could not have been involved without that support. Since, in our culture, one's commitment is often measured by one's willingness to pay, concerns could be raised as to how dedicated these schools were to being learning communities. Unfortunately the fiscal limits under which schools live limit the resources available to do all the things they should. The fact that the CIG and school administration were willing participants in this effort and chose to participate fully where there were some schools supported by the grant who did not, lends credence to the value they placed on these activities. This is supported by IESN records.

- ~ All CIG group representatives insisted on maintaining external coaches for the next year of the initiative citing their importance to keeping the schools accountable to their commitment to the reform initiative (IESN Planning meeting minutes, May, 2001).
- ~ The importance noted by many of "The opportunities for sharing of experiences, concerns, and 'ahas' helped me to understand that using others...has helped me tremendously" (Anonymous, Network evaluations, June 2001).
- ~ A school change coach's notes on interviews from the spring of 2002 represent how teachers spoke about collaborative inquiry. "She reiterated several times that working with a CIG helps her think specifically about best practice, her beliefs about teaching and learning, and how to teach using the standards" (IESN Coach's notes, CIG interviews, April 2002).

As the grant funding ended the value teachers placed on the reform activities gave hope to the members of the Network that the skills, and at least some of the less costly activities supported by the grant funding, might continue so that individual teachers,

CIGs, and schools would continue to learn and improve their practice.

While the presence of the activities in Table 7 provided some commonality to their development as learning communities, each CIG responded uniquely to the quest to be a learning community. The unique response of each school is described separately next, then a summary comparison discusses them as a group. Data for these descriptions came from school documents (e.g. school improvement plans), CIG meeting notes, coach's notes, reflections, and interviews made during the last two years of the initiative. These descriptions give a more complete picture of the development of the CIGs as learning communities in preparation for analysis of their current status in the next chapter.

Thoreau High School

The mission statement of Thoreau High School states, “The mission of the students, teachers, parents and administrators of [Thoreau] High School is to be personally and collectively responsible to learn, grow, and succeed in our constantly changing world” ([Thoreau] High School, School Improvement Plan, 2002). While describing themselves in terms that would characterize them as a learning community, Thoreau, like all the other schools, was still developing those characteristics and disciplines outlined by Senge (1990) and others in Chapter II. The evidence that most distinguishes the Thoreau CIG in their use of the five disciplines is their collaboration around personal practice. For example, incidents of improving personal mastery through sharing of lessons, rubrics, and assignments were noted more times in their CIG reports

and coach's notes than the other schools. CIG reports note using tools such as the Tuning Protocol or Consultancy Protocol to structure their conversations so as to provide a supportive setting for feedback, as well as a chance for all to participate in the process. All members of this group mentioned the value of learning from each other and this was apparent in the fact that much of their collaborative time was spent on improvement of practice.

Simultaneously, they balanced this classroom practice focus with consideration of whole school issues. One such issue was developing a schedule that gave them more flexibility to respond to the learning needs of students. Another was a concern about how to include other teachers in the change effort. This led the CIG to work with the principal to devise a school leadership team structure that included representation of a greater number of teachers. Their development of school-wide goals for writing and their professional development work with other staff on writing in the context of their subject area showed a desire for the coherence of whole school efforts required of systems thinking.

Members of learning communities engaged in systems thinking also consider and ultimately include all stakeholders in decision-making processes. The CIG at Thoreau had begun moving in this direction in two ways. First, in their concern for including other teachers in the decision-making leadership of the school. Second, by having regular conversations with students to determine learning experiences and assessment. Indicative of this is Tom's response, "It seems that the Coalition principles of having the students as workers, in researching, and more importantly that when we individualized instruction for

students, the students seem to become more involved and interested in the topic chosen” (Tom, IESN interview, April, 2001). Tom, as well as each of the members of Thoreau’s CIG, developed project assignments or rubrics with students to gain their input and participation in the work. Rather than having a focus of teaching the subject traditionally associated with secondary teachers, the CIG members seem to have switched that focus to that of teaching students and considering the needs of the students. Teresa’s comments are typical where, rather than framing the task as teaching, she frames it as “help[ing] my students learn” and being “more mindful in meeting their learning needs” (Teresa, Network Minutes, June 2001). Though the involvement of students in actively impacting the larger system (the school) was not apparent, the change in perspective of teachers and active participation in classroom matters by students is a beginning step toward the student being seen as an active stakeholder in that system.

The Thoreau CIG used questions to focus and organize its work. Their professional development plan, for example, is designed to respond to this series of questions:

What are we doing to improve reading skills for all students?
How are we measuring results?
What do we do with students who are not improving?
What evidence is there that study skills are improving?
(Thoreau HS, Professional Development Plan, 2002)

Similarly organized around questions were CIG meetings (Thoreau CIG Final Reports for years 1999-2000, 2000-2001), a staff-wide professional development day (Agenda, Thoreau HS Professional Development Day, June 2000), and a work day on documenting their change efforts. A sampling of questions from the work day provide an example:

- How have you adjusted your practices as a result of looking at student work?
- How have you incorporated a focus on the district goals and state standards into your students' learning?
- What assumptions about teaching and learning have been challenged for you for the past 1 or 2 years?
- How has your understanding of quality and standards deepened or changed? (Thoreau HS Work Day Agenda, March 2000)

They thus emphasized the process of maintaining an inquiry stance. In answering these questions, Thoreau collected and analyzed student data, but as these were their first efforts at this learning process they were at a novice level. The process was also limited by the fact that for the whole school questions school-wide performance data was not available in an electronic database form that could be easily manipulated. Analysis was limited to grade level averages, subject area averages, and classroom averages. Thus the ability to collect and disaggregate data from multiple sources as part of their evaluation was hindered.

They were a reflective group, as a whole, often considering the perspectives of others and thinking about their own thinking and perceptions. For example, they worried about other teachers who did not share their same reform vocabulary and thus might not be able to participate freely in conversations about school change (Thoreau CIG Final Report, June 2000). They also worried about their own perceptions of teachers, who were not as enthusiastic as themselves, as "barrier" people (Teresa, Network Minutes, June 2001).

This reflection was also evident in the CIG around the discussion of individual inquiries. Each of the teachers had his/her own inquiry into the learning/teaching process

in his/her classroom. A few samples of these inquiries exhibit not only a thoughtful consideration of the process, but also a focus on students.

How do I engage my students more actively in using their minds well?
How do I become the coach?
How do students best demonstrate their understanding of the concepts?
How do I engage the unengaging?
How do students achieve excellence? How do I help students achieve excellence?
How do I assess my students in an authentic manner?
(Thoreau CIG Final Report, June 2000)

Teachers then regularly brought materials to the group for feedback and discussion, and their minutes reflect this sharing occurring more often than at CIG meetings at other schools.

Their support of learning processes was noted in their professional development plan. Thoreau stated, “Collaborative inquiry groups will continue to be supported and encouraged to enhance peer coaching and assessment of new strategies for the teaching/learning process” ([Thoreau] High School, Professional development plan, 2002). The same document also declared that data on student learning would be a part of all department and faculty meetings, and that there would be collaboration amongst staff to increase reading ability of all students. This document, prepared in the final year of the implementation of the reform effort, can only provide intention and support of a set of ideals. However as a school, they had, in the previous year, held a school-wide staff development session dedicated to reading and writing (Thoreau CIG Planning Notes, June 2000), and had implemented a school wide Drop Everything and Read program during which all people in school read for one class period each week (Thoreau CIG Final

Report, June 2000). Thoreau had evidence of supporting such a goal, though the inclusion of student data was a task for the future, at the time.

Thoreau's mix of environmental factors included a supportive principal and limited time for professional development work during the school day. The CIG availed itself of all enablers from the grant – an external coach, attending professional development sessions, and participating in the annual Spring Forum. If there is a distinction between Thoreau and the other schools it is that there seemed to be a strong ethos of support and challenge in this group. A review of their minutes and coach reports indicates that they review a practice or piece of teacher work (i.e. assignment or rubric) to provide feedback at nearly every CIG meeting. Notes from the coach highlight that the CIG characterizes their meetings as “a place to get feedback on works in-progress and to raise issues.” In addition, “[t]wo of the members noted that the discussion and feedback received in the group is at a different level than with their other colleagues.” (Thoreau Coach report, December 2000).

Table 8 summarizes the characteristics for Thoreau in each of the 15 elements of a learning organization. The table is divided into three sections, each section demarcated by shading the row. There is a section for the practice of the Five Disciplines, with one column for each of the disciplines. The second section presents each of the five elements of collaborative inquiry discussed in Chapter II (one per column). The last section reviews the five environmental factors. In each section there are two rows of cells. Each cell in the first row of each section is an evaluation of the level of development for that element, with the key for that evaluation at the top of the chart, next to the school name.

Each cell in the second row lists the key evidence that led me to the evaluation. While not absolute in an any objective sense, the table highlights the mix of strong elements that characterize the unique development of Thoreau. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix D.

Table 8

Summary of Learning Community Characteristics for Thoreau

Thoreau	▶▶▶▶ = strong development ▶▶▶ = developing on own		▶▶ = beginning development ▶ = reform required level only	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶▶▶	▶▶▶▶	▶▶▶▶▶	▶	▶▶▶▶
strong focus on student learning; individual inquiries into teaching practice	student as focus of learning rather than subject as focus of teaching	regular use of CIG to learn from one another's practice	identified in written documents	balance between classroom & whole school; some input from students
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶▶▶	▶▶▶▶▶	▶▶▶▶	▶▶▶▶▶	▶
Strong dedication to collaboration in CIG & developing among faculty	questions organize their work; inquiries into practice	novice level but systematically collects for personal practice	highly reflective on own practice and perspective of others	as required by reform effort
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶	▶▶▶▶	▶▶▶▶▶	▶	▶▶▶▶
occasional in-school meeting time	supports reform effort; depends on CIG for leadership; invitational to staff	respectful tone; very willing to challenge practice of each other	as provided by reform effort only	connection to school goals of multiple change efforts

Pierce High School

Similar to Thoreau, the CIG members at Pierce, the other large comprehensive high school, were concerned about getting ideas to the whole staff. The CIG was concerned about other teachers not having input into whole school changes and realized “the importance of keeping conversations going” (Pierce CIG member, IESN interview, Spring 2002). This concern that there be system-wide team learning is evident in attempts of the CIG to bring learning from IESN’s professional development sessions to the staff, to use conversational protocols to assist team leader discussions, and in their future plans to “extend ideas to other staff members” (Pierce HS, Benchmark Progress Report, June 2000). Pierce CIG members tried to bring knowledge, skills, and activities to the larger staff by sharing such at staff meetings though, by their own admission, without much success. Similar to the Thoreau CIG, they had the strong support of the principal, which often put the CIG into a leadership role, such as when the CIG members were also those who were “pulled into” developing the school improvement and accreditation plans (Pierce CIG member, IESN interview, Spring 2002; corroborated by CIG minutes, 2001).

At the same time this whole school focus was balanced with a concern over personal mastery. The inquiry emphasis for the CIG even alternates between these two foci during the four years. The focus for the 1999-2000 school year, “The CIG will learn about the inter-relatedness of curriculum, instruction, and assessment and will help each other implement strategies that assist students in achieving Indiana standards” (Pierce HS, Benchmark Progress Report, December, 1999). The next year the CIG focused on, “How can students and parents become more engaged in meaningful inquiry about learning –

their own and that of peers within the school – and, therefore, have more voice in future change?” (Pierce HS, CIG Minutes, January 23, 2001).

Pierce collected data, both school wide (e.g. student and parent survey on school climate, grade data on Intensive Freshman program) and individually (e.g. classroom surveys, grade data) in keeping with the dual balance described in the previous paragraph. Individuals spoke about changes in their practice during IESN interviews. Six teachers discussed using more and improved rubrics, four about using student feedback to change and improve assignments, three about using student data (project and quiz scores) to influence lessons, with one noting that he used it to determine scope and sequence of content (IESN interviews, Spring 2001; Spring 2002). These changes and their effects, however, do not seem to have been shared in any regular form of team learning. Even though the CIG was described as a space where “nothing [is] too faux pas to talk about” (CIG member, IESN interview, Spring 2002) suggesting the development of trusting relationships, CIG minutes record only a few instances where sharing about practice occurred. As with much of the development of these CIG’s as learning communities, the trust level to bring one’s practice into the public sphere was still in its nascent stages.

Frustration was evident regarding the use of school-wide data to evaluate school practices. Data on student achievement was unavailable or incomplete which made drawing conclusions impossible (IESN, Data meeting notes, Spring 2001). Frustration with incomplete data even led them to decline participation in a Network event on data analysis on the grounds that they expected they would not see a benefit without any data to analyze. While examining the culture of the school, the CIG conducted a survey to

obtain information about the school experience from the perspective of students and parents in order to have the data they needed. It was a beginning step towards actively involving all stakeholders in the system. While both the school-wide data and the survey addressed concerns, the data collection was not part of a comprehensive plan for improving the school, nor is there evidence that decisions were made based on the data after it was collected.

The involvement of students in planning assignments and rubrics mentioned earlier indicated a changing mental model among the CIG members, while Pierce's block eight schedule is evidence that the larger staff had made a shift in their mental model about how a school might be organized. In the area of curriculum content and learning activities most classrooms mirrored that which might be seen in other Indiana high schools: text-based instruction, unit tests, and learning directed by the teacher. This lack of movement may be due to the CIG members being only a minority of the staff and the challenge of working within a system (school) where the majority have a different model.

As with all the schools little data on reflecting is available, though CIG minutes and coaching reports from Pierce do reference the use of reflective journals in which they wrote their reflective thoughts on the learning-teaching process in their classrooms, as well as their own inquiries. As these journals were retained by teachers and were never part of the sharing process with the network, they were not in any collective archive to be examined. One of the progress reports note that peer observations occurred but not any results of those (CIG Benchmark Progress Report, March 2000). The Pierce CIG fulfilled all its sharing obligations by annually presenting at Spring Forum, each time doing two

presentations on school-wide practices. For example in 2001, they made a presentation on student exhibitions and one on using data to understand their history, their current state, and to set future goals. Additionally, the Pierce CIG was meticulous in keeping and sharing records of meeting minutes and reports indicating that the CIG held some value in sharing outside of their CIG.

Environmental factors for Pierce included time and resources for professional development. Typical to schools in Indiana, in-school professional development occurred in the monthly half-days required by the state for such. Department meeting time occurred during the school day, taken from teachers' preparation time. Pierce did seem to have financial resources for change efforts as four of the teachers in the spring 2002 interviews mentioned attending workshops connected to the school's change efforts. Additionally, the 2002 School Improvement Plan notes that the members of the Instructional Leadership Team would be given five additional days every year for professional development. All indicate a support for change and learning.

Their commitment to each other in meeting together and being supportive shows strength in relational integrity, though not strong enough to support challenge to teaching practice. While CIG members did challenge each other about ideas, such as school change, data interpretation, or the appropriate action to take during the reform effort, there was less challenge about practice [Pierce change coach, personal communication, 14 April 2006]. As noted earlier, a few teachers did participate in peer observations which may have led to some critical feedback on practice, though there is no available data on outcomes of these observations. As the largest of the four schools in the study, and a

comprehensive high school, Pierce had the greatest challenge to developing a coherent change strategy and a shared vision. In the 2002 interviews, one member described the school improvement plans as coherent, with the CES principles as the framework for that coherence.

Similar to the other schools Pierce participated in the network activities, had a bimonthly coach, and were vocal about the importance and value of a coach as “vital to growth” and for “pushing our thinking” (IESN Planning Meeting, May 2001). They also attended a critical friend visit with another network high school, though chose not to host a visit themselves, citing the lack of benefit to them at that point in time.

As with Thoreau, a summary table of the development of Pierce as a learning community is shown in Table 9. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of cells in each section is a characterization of the level of development for that element, with the key at the top of the table. The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix E.

Table 9

Summary of Learning Community Characteristics for Pierce

Pierce	▶▶▶▶ = strong development ▶▶▶ = developing on own		▶▶ = beginning development ▶ = grant required level only	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶	▶▶	▶▶▶	▶	▶▶▶
individuals study own practice, little sharing with other CIG members	student and subject share focus of teacher; Block 8 schedule	efforts to bring learning to whole staff	identified in written documents	balance between classroom & whole school focus; some input from students & parents
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶	▶▶▶	▶▶▶	▶▶▶	▶
strong dedication to meeting but teacher inquiries not central to meetings	teachers asking questions of own practice; CIG asking questions of effectiveness of school efforts, but not practice	large amounts of data collected; good knowledge of data analysis; data not always used	use of reflective journals; thoughts reflective in interviews	as required by reform effort; extensive CIG records
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶	▶	▶▶▶	▶	▶
occasional in-school time for meeting	permits participation in reform activities; depends on CIG for ideas	supportive of one another; committed to each other by regularly meeting; willing to challenge ideas, not practice	reform effort enablers only	school improvement plan as framed by CES principles; data collection not coherent

Dewey 1 - 8 School

George, one of the teachers at Dewey, describes his school as having “made revolutionary changes in structure – multi-age, no grades, portfolio assessment,

collaborative decision-making” (IESN Spring Interviews, 2001). For Dewey these elements were all part of their efforts to reach the overarching goal of developing a strong, democratic community. While small size does not guarantee a shared vision, the small number of staff meant the entire faculty of Dewey could fully participate in the development of the vision and thus practice this discipline. Perhaps more unique to Dewey was the involvement of parents and students in the development of this vision. Through regularly scheduled town hall meetings the school community explored its strengths, challenges, and vision with exercises such as completing the sentence, “[Dewey] should be...” (Minutes, Town Hall Meeting, February 1999; May 2001). By collaborating with students and parents in decision-making about Dewey the community practiced the democracy it hoped to develop while involving all the stakeholders of the community as is characteristic of the practice of systems thinking.

This participation developed a mission statement describing Dewey as a nurturing and intellectually challenging community where members were accountable for the learning of everyone, reflective, and informed about the larger world around them (2001-2002 School Handbook). The elements noted by George were structured so that they wove together to reach this goal in a coherent manner indicative of systems thinking. For example, this quest for coherence included their use of restitution, where inappropriate actions on the part of a student are discussed with the student who then makes amends for action (e.g. gives an apology, replaces broken or torn item, cleans up mess) in order to develop a sense of responsibility to others (2001-2002 School Handbook; School Improvement Plan, 2002). The multi-age approach, benchmarks that identified levels of

achievement, and narrative report cards based on those benchmarks indicate a coherent view of students as developing at their own pace (School Improvement Plan, 2002). Such a view is also coherent with the mission as it expresses to each person his or her value, an understanding necessary for a strong democracy. In addition to the collaboration at town hall meetings, twice-yearly school-wide discussions about Dewey between students and staff and a parent as co-convenor of the school-based management team (IESN Benchmark Progress Report, 2001) indicate a dedication to the equality of people inherent in a democratic community, and coherence with the mission of the school.

This conception of a multi-age school with democratic decision-making structures represents a radical shift from the mental model of a traditional school. By developing a set of expectations based on their conception to share with new teachers (“[Dewey] School New Teacher Expectations” document, not dated) and by holding town hall meetings where multiple perspectives could be heard, the staff subjected their mental models to scrutiny thus practicing the discipline of mental models. It is interesting to note that the curriculum was not yet part of their mental change. Subjects were taught separately, for a daily prescribed amount of time, and dependent on the text book (Coach notes, 1999-2002). Report cards, however, were narrative for all grade levels which is not typical for schools in Indiana. Nor was the content of those reports typical. As Indiana student learning standards changed, Dewey adjusted their benchmarks of student learning, then expanded them to cover the areas of reading, writing, math, research, presenting, science and history content, listening, physical education, reflecting, and self-directing learning (Benchmark lists; Narrative report cards, not dated).

Dewey's small size and adherence to collaborative decision making naturally led the staff to instances of learning together. Discussion of professional articles and sharing of ideas on practice occurred as a regular part of their twice-weekly meeting time (Coach notes, Years 2000-2001, 2001-2002). Rather than a separate professional development activity, as in study groups, most team learning occurred as part of the regular routine. For a staff that were decision-makers for all aspects of school life, this meant that there were occasions where time for team learning was usurped by more immediate decision-making needs on curriculum, schedule adjustments, student problems, or district requirements. To increase team learning opportunities, starting in 2000, Dewey had begun to implement a plan of peer coaching in which all teachers would participate, providing each other feedback, while also learning what occurred in each other's classrooms (Minutes, IESN Coaches Meeting, Feb 2001, May 2001; Peer Coaching Proposal, 2000).

The small staff and shared responsibility for Dewey operations meant that collaboration was routine also. Collaboration on students and activities occurred between each pair of teachers responsible for each multi-age grouping of students (Coach notes, Years 2000-2001, 2001-2002). All the teachers except the teacher new in 2000 did inquiries in their classroom, yet collaborative discussion by the staff of their inquiries was only noted five times in the last two years of the initiative (Coach notes, Years 2000-2001, 2001-2002). This was despite the fact that most of the inquiries were about improving student learning through projects and involved students learning by applying knowledge (Coach report, May, 2001), so a common discussion would have benefitted all..

Perhaps because the staff at Dewey felt a sense of collective accountability to its student-parent community, as well as having a healthy concern for the central office's perspective on them as being different than other district schools, they collected and analyzed a variety of data on their efforts. The data ranged from "customer satisfaction" surveys of parents and students to NWEA standardized test scores and assessment data of classroom learning (Dewey School documents: "Instruments: Survey;" "Student Data for Analysis;" "Instruments: Logs, Record Sheets, Journals"). The gathering, analysis, and discussion of this data occasioned incidents of reflection and team learning tightly tied to their collective practice (Professional Development Plan, 2002). The evidence was less apparent on change to their own personal practice. However, with the exception of the one teacher new to the staff in 2001, all teachers spoke about, as one staff member said, "the use of rubrics and student reflection on their work" as feedback for developing practice (IESN interviews, Spring 2001). The collection of all the different data were in pursuit of answering the question, "How are we doing at what we are trying to accomplish?" (Coach notes, December 2001). This basic inquiry stance and a commitment to collecting data to respond to their collective inquiry is a key characteristic of Dewey.

One of the greatest "luxuries" afforded to Dewey was the daily one-hour common time the staff had as part of the contractual day. Two to three times a week the staff met as a whole to analyze data from the different tools noted above. This analysis included reviewing student achievement and potential changes to the curriculum or approaches to teaching. The data from student and parent surveys, as well as the frequency of the use of

restitution, were discussed to evaluate their efforts at building community. Lastly, they used this time to engage in professional development. The other days were spent working with their team partner and in planning lessons. This single environmental factor strongly supported their ability to collaborate and learn as a team, analyze data, develop shared values, and think systemically about their work. It also most likely aided their ability to maintain these disciplines through a revolving door of administrators, who while supportive of the work, were not around for longer than a year to provide any other necessary resources (Coach notes, Years 1998-2002).

The close collaboration and trust noted earlier developed a relational integrity that permitted Dewey staff to be both supportive and challenging without fear of destroying their working relationship. As noted by one of the two new teachers who came on-board during the last two years of the grant, staff members were very supportive, acting as mentors to understanding the Dewey community (IESN interview, Spring 2002). Peer observations and open discussions about school-wide practices evidenced their willingness to open themselves up to critique. Dewey extended this willingness at one summer retreat by asking for a no-holds-barred critique of their work from the facilitators.

Dewey brought in a facilitator (enabler) multiple times to be sure that all staff (including food service and custodial), as well as any parents who were interested, were trained in restitution. Additionally, the staff's openness and transparency about their work let parents and students also fill an enabler role of support and challenge (usually by asking questions) to decisions teachers made about learning or building community. As a whole Dewey's size and tight adherence to its shared vision enabled it to develop a

coherence of activities. The vision being shared by a critical mass of the larger community of parents and students kept them involved and Dewey in a systems thinking mode.

A summary of Dewey's development as a learning community can be found in Table 10. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of cells in each section is a characterization of the level of development for that element, with the key at the top of the table. The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix F.

Table 10

Summary of Learning Community Characteristics for Dewey

Dewey	▶▶▶▶ = strong development ▶▶▶ = developing on own		▶▶ = beginning development ▶ = grant required level only	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶	▶▶▶▶▶	▶▶▶▶	▶▶▶▶▶	▶▶▶▶▶
individuals reflect on practice to make adjustments to practice	multi-age; democratic; portfolio / narrative report cards	learning occurs within culture of collaboration and self-examination; peer coaching	strongly held and articulated by all including parents and students	coherence in implementing vision; strong student/parent voice
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶▶▶	▶▶▶▶	▶▶▶▶▶	▶▶▶▶	▶▶▶
strong collaboration in decision-making and instruction in multi-age cohorts	strong regarding effectiveness of community development and student learning; teacher inquiries not central	well developed collection and consideration of data	regular reflection on effectiveness as school and on classroom practice; "improved practice journals"	reform effort required events; transparency with parents & students
Collaborative Structures	Administrative Support	Relational integrity	Enablers	Coherence
▶▶▶▶▶		▶▶▶▶	▶▶▶▶	▶▶▶▶▶
regular in-school time for collaboration	supportive but ineffectual due to short tenures	very respectful; support & challenge is consistent	reform effort enablers plus parents & students	multiple aspects of school support democratic learning community

Emerson Pre-K - 8 School

Emerson, as a pre-K - 8 school, was begun with a “focus on whole language, theme-based interdisciplinary studies, democratic processes, and environmental stewardship” (School brochure, August 2000). When Emerson became a magnet school for environmental studies it strengthened its development towards this end. While there is

no evidence (from this review) that this was a shared vision by all, this was a focal point towards which efforts could be directed. In adhering to this focus, Emerson employed a “spiral curriculum” from Kindergarten through eighth grade so that knowledge of ecological concepts and environmental decision-making were developed over time (Vision and Goals for Environmental Education, March 2000). Additionally, the curriculum was divided into a series of essential questions connecting it to the CES and inquiry work of the reform initiative (Environmental Essential Questions, undated). This coherence of curriculum, goals, and change effort is evident of elements working together that is inherent in systems thinking. All school morning meetings and town meetings in each classroom are noted in a school brochure supporting the goal of democratic processes. However only a few students interviewed during a visit by other Network teachers could speak about the town meetings occurring (IESN notes, [Emerson] Critical Friends Visit, April 2002).

Emerson staff understood the value of involving all the stakeholders in the system. Parents were part of the site-based decision making team (Our Vision for the Future, 1999; School Improvement Plan, 2001). The staff developed a contract with students and parents that indicated agreement on the part of students and parents to participate in actions meant to increase learning success for students (Compact for 99-00). A set of standards was also created around community membership and teaching and learning that delineated the responsibilities of student, parent, and teacher ([Emerson] Standards, undated). These, coupled with a brochure developed to introduce the school’s vision to parents (Coach report, May 2001), indicate that Emerson was also working to

extend the shared vision. However, there was no evidence that these efforts actualized into a more involved community or that stakeholders were involved in developing the contract.

The focus on a coherent spiral curriculum identifies that Emerson had moved from a traditional mental model of the school, one in which every teacher worked in relative independence, to one where they felt a collective responsibility for the attainment of goals for a graduating eighth grader. This same broad view was exhibited in their development of a writing continuum to show growth of students over time. Rather than viewing students as needing to be at a certain point by the end of each year, (the traditional mental model of learning) they understood the developmental process of writing and took growth on the writing continuum as a sign of progress for a student (Writing Continuum, undated; CIG report, Spring 2001; Coach notes, May 2001). Additionally, as a staff, they changed from a single grade perspective to a multi-age one as they began to teach in multi-age classrooms. Agreement by the faculty to these whole school changes indicate a move to a shared vision. Evidence of personal mastery and team learning in both the CIG reports and coach's notes is mostly focused on writing, connecting both to the whole language goal and another example of coherence (also substantiated in IESN interviews, Spring 2001).

To better understand their own practices, the CIG conducted a survey of teachers on use of student writing portfolios (School portfolio, 2000-2001). Additionally they collected writing samples from all students. These samples were used as data to develop the K-8 writing continuum, for ongoing evaluations of student writing progress, and in

their comparison of their continuum with the district's writing/scoring rubric (CIG report, Spring 2000). In examining this data teachers reflected on the student writing process (Coach report, Feb 2001; May 2001). Use of reflective journals by CIG members is noted in their CIG report of Spring 2001, though, as noted with Pierce, the journals were not available for review. The CIG publicly presented "Documenting and Dialoguing about Reflective Practice at [Emerson] School" at the 2001 Spring Forum, so these journals had reflective content and played a role in school change for Emerson.

Annually, the Emerson CIG publicly shared what they had learned through their inquiries, as part of their commitment to the Network. They presented, not only the above session, but also one on data collecting for the work done on the writing continuum (IESN Spring Forum Schedule, March 2001). Additionally, Emerson hosted two critical friend visits, publicly displaying their practices. One of only two schools to use such an enabler, they invited another school to visit classrooms and interview students and staff. The visitors then provided feedback on strengths and hindrances to the Emerson CIG (IESN notes, Critical Friend Visit, April, 2002). Emerson CIG members also served as visitor to another school in the Network (Critical Friend Visit Agenda, November, 2001). Perhaps the strongest evidence of their commitment to publicly sharing their practice and using enablers to improve that practice was Emerson's partner relationship with the School of Education at a local university. Emerson staff, by opening their classrooms to view, publicly shared their classroom practices through observation and discussion with preservice teachers, university staff, and themselves. Both the university staff and the preservice teachers, who spent two years at the school, were enablers, offering new practices

and feedback to the Emerson staff.

This partnership also permitted some increase in time that could be dedicated to school change increasing that environmental factor. As the pre-service teachers took control of the classrooms during their student teaching experience in their second year, host teachers could use that time to collaboratively meet. Emerson though was most distinguishable by a principal who not only supported the work of the change effort but regularly attended CIG meetings and found the resources to develop the environmental focus, the spiral curriculum, and the work on the writing process.

As a partner school, teachers had committed to the profession and to each other. While not evident in the documents available for review, it could be inferred that CIG members were dedicated to development of the continuum due to the time spent on it. The fact that the teachers of the youngest multi-age group did write the district office to offer a writing rubric they felt was developmentally more appropriate for their students indicates a commitment to student learning. Clearly, the work the teachers were doing on the environmental curriculum and the writing continuum show a commitment to the school goals. Though the documents reviewed do not indicate mutual respect, support, or challenge amongst the teachers, the fact that the CIG found collaborative inquiry to be “taxing work” (CIG report, Mar 2000) and yet continued to do it suggests, with the other evidences here, a relational integrity existed at Emerson.

A summary of the learning community development for Emerson can be found in Table 11. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of cells in each

section is a characterization of the level of development for that element, with the key at the top of the table. The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix G.

Table 11

Summary of Learning Community Characteristics for Emerson

Emerson	▶▶▶▶ = strong development ▶▶▶ = developing on own		▶▶ = beginning development ▶ = grant required level only	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶▶▶	▶▶▶▶▶	▶▶	▶▶▶▶	▶▶▶▶▶
strong commitment to improving writing & environment-related instruction	multi-age; writing as process; K-8 view of student development	constant among members inside and outside of CIG	in written docs; multiple aspects of school designed around vision	coherent plan for curriculum; value of parent input recognized
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶▶	▶▶	▶▶▶▶	▶▶▶▶	▶▶▶▶▶
dedicated; teacher inquiries support CIG learning and inquiry focus	various prof dev activities require questioning; inquiry is core of teacher prep program	regular collection of writing data; analysis skill still developing	use of reflective journals; reflect on practice with pre-service teachers	as required by reform effort; host critical friend visits
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶▶	▶▶▶▶▶	▶▶	▶▶▶▶▶	▶▶▶▶
occasional in-school time; team meetings; other prof dev has some in-school time	participates regularly in CIG; acquires additional resources	support present; little evidence of challenge though articulate willing to be challenged	reform effort enablers plus critical friend visits and university	spiral curriculum on environment; writing continuum and professional development for whole language goal

Review of the Four Schools

After four years of the change effort, all four schools were practicing some combination of the five disciplines, engaged in collaborative inquiry, and had some environmental factors supporting the work of a learning organization. (See Table 12 at the end of this section for a side-by-side comparison of all four schools.) In the practice of the five disciplines, systems thinking was the most apparent element, embraced by all. Most often this manifested as CIG members considering the school as a system, the interacting forces that affect learning in that system, and the impact of both on their classroom practice. This view resulted in CIGs focusing on improving the classroom practice of members, while also exploring changes to school-wide practices that would impact the learning environment for students.

Another component of systems thinking present was the involvement of all stakeholders in the school. Concern about making sure that all staff members were part of the change efforts was most indicative of this component. This concern was particularly noted by the high schools with their larger staff, however even the Emerson CIG worried about the staff perceiving them as a “clique” (Emerson CIG report, March 2001). All schools were at least starting to pay attention to the perspectives of students and parents, usually by surveying opinions, though Dewey had fostered stakeholder involvement.

While student input was more strongly developed at Dewey, all were developing a stance of considering the student and student learning as the central focus of their work. Implementation of this focus ranged from the high school support programs and revised ninth grade courses to help students successfully transition to high school to Dewey’s

work on student choice in learning and use of rubrics for assessment. For all, the mental model of school was changing, and usually to one where the student was the central consideration in instruction (versus subject, for instance). Yet while there is evidence that their mental model of school and the learning/teaching process had changed (e.g. use of rubrics, student participation in the development of projects and rubric assessments) it is not clear that they were practicing this discipline. The discipline requires an on-going examination to the assumptions that comprise one's mental model to be sure those assumptions are not arbitrarily limiting one's options for change (Senge, 1990). Such an examination was not evident in the records examined.

While shared values was more present at the two smaller schools, the larger schools were characterized as stronger in the presence of team learning even though all schools were practicing team learning through collaborative inquiry groups. One reason for this disparity is the availability of documents from the implementation phase. The record for Thoreau had multiple evidentiary supports that collaborative inquiry groups resulted in team learning. The documentation of such was less prevalent for other schools, particularly Emerson. For Dewey, the lack of evidence might be due to the fact that with collaborative inquiry a component of their regular faculty meetings it was not as distinguishable in documentation or that, as noted earlier, its practice was usurped by other agenda items.

All the CIGs were engaged in collaborative inquiry. Since collaborative inquiry was a central activity of the reform initiative, supported by school change coaches and collaborative inquiry groups, its elements appeared strong across all schools. The role that

individual inquiries played in the work of the CIG and team learning varied by school. There was no discernable pattern in the documented evidence to indicate possible reasons for this.

In all CIGs individuals were asking questions of their own practice, as noted by CIG reports and coaches' notes, though most of the questions recorded in documents were about the effectiveness of programs or school-wide initiatives, questions the CIG as a group explored. Reasons for this may be that IESN's mechanisms for reporting centered on the CIG or while teacher inquiries were to be part of CIG reports, teachers failed to report due to time constraints. It may also be connected to a weak development of the discipline of personal mastery, in that teachers were still hesitant to publicly discuss their practice in order to improve it.

A willingness to share individual practice for team learning was strong in Thoreau which was also strong in all elements of the collaborative inquiry process. That willingness to share did not extend to those outside of the school, however. While all the schools did public exhibitions at Spring Forum annually, the record indicates only Emerson sought additional options for sharing through critical friend visits and as a university partner school. Geography may have been a factor in Thoreau's, as well as other's, lack of public sharing. All of the critical friend visits that occurred, for example, were with schools which were less than an hour's drive away. Thoreau was a two and a half hour drive from the nearest Network school.

Using data and its companion practice of reflecting were the most developed element of collaborative inquiry for all the schools and the CIG's. Classroom assessment

and using data for making educational decisions (both for instruction and school-wide practices) was the focus of all the professional development provided by IESN during the school year (IESN, Session records, Years 1998-2002). As noted earlier, schools were often thwarted by the lack of data or by usable data. For example, at the time the initiative ended standardized test scores were still only available as an aggregated score by grade level or building. Schools were comfortable finding trends in the data for large populations of students (all seventh graders, for example), but less experienced with trends among subpopulations (of race, socio-economic status, etc.). Without the ability to manipulate data and explore data in different permutations they could not discern the patterns necessary to a thoughtful response. Due to this factor school faculty had limited experience with manipulating and analyzing data they were collecting at the end of the initiative.

Emerson, in their 2000-2001 School Portfolio, provides a good example of the status of using data for decision-making. Emerson, disappointed by its scores on the state-wide assessment (which scores were only available in aggregate form) looked at Terra Nova scores that could be manipulated in different configurations. From that examination they discerned a pattern of students moving from one quartile of achievement to the next, an indicator of student growth not apparent in the state-wide tests. As they explored further they

“got bogged down in looking at raw test score data. We decided that we wanted to know how students did when they stayed at [Emerson] for three years. It took us a couple weeks to locate the notebooks full of student test results and to get the passwords that allowed us to access the [district] test results database” (Emerson School Portfolio, 2000-2001).

The additional examination of data led to the realization that only one third of the student population remained for three consecutive years. This realization meant that their instructional response, based on the belief of having a relatively static population, may need adjustment.

As part of their inquiries, individual teachers were also examining data on student learning to better understand their practice. While teachers were now engaging in an inquiry process they had not previously used to inform their practice, the documentation for this study did not permit an analysis of how these inquiries affected that practice, beyond self-reports. Teachers reported that changes to practice included changes in manner of assessing (e.g. use of rubrics, exhibitions), use of student feedback and assessment to design instruction, student portfolios as reporting mechanism to parents, greater alignment of instruction with standards and assessment, and more student conferencing (IESN interviews, Spring 2001, Spring 2002).

We can assume that such changes occasioned individual reflection by teachers while the data analysis, identified earlier, required reflection as a group. Reflective journals were by far the most common tool for reflecting being that they were used as part of Network events and CIG meetings. Additionally every CIG reported that they were used by at least some teachers in their individual practice. However, as these journals were not part of the historical record, it was harder to fully gauge the level of development of this element.

Distinctions noted earlier between the high schools and K-8 schools may be in fact due to the difference in environmental factors. While lack of supportive

environmental factors were a hindrance to everyone, the high schools were markedly weak in this area, particularly in those areas that required funds (time, resources, attention of the administration), perhaps due to the competition from the larger number of program expenditures in comprehensive high schools for those funds. Employment of someone in an enabling role might require expenditure of funds, for example. However, both Dewey (by having an open relationship where parents could play that role) and Emerson (by using their partnership with the university and hosting critical friend visits) found ways to do so with little added cost.

Relational integrity was the strongest environmental factor evident across the schools. There was a strong commitment on the part of the CIG members to support each other and the process of change. Coherence of efforts, as might be suspected, was more present in the smaller and K-8 schools. The number of traditional programs at the large high schools could reasonably be seen as a reason for this, as developing coherence might mean elimination of programs that do not fit the new vision. My evaluation of the difference between Pierce and Thoreau may be of note here. While both are rated as having the same support of the principal, who would play a major role in developing that coherence by virtue of her/his role as decision-maker for the school, Thoreau is rated as more coherent. While this could be simply a short-coming of the available documents, the connection between change efforts and school goals were clearly described in Thoreau's evidence, and not in Pierce's. While Pierce's school improvement document included a large number of strategies of improvement to accommodate the large number of departments and programs it operated and connected all to either a mission, vision, or

belief, the connection was tentative. For example, many strategies were said to be supporting the mission of “educating all students to be successful” ([Pierce] School Improvement Plan, 2001), which in its broad language does little to focus those strategies..

While none of the CIGs or schools would qualify as a well-developed learning community, it is fair to characterize them all as on their way in developing the attributes of a learning community. At the same time, this is qualified by the fact that much of this development was occurring because the school felt accountability to the reform effort. For example, all of the CIG groups in this review often noted the value of the bimonthly visits of the external coach in keeping them on target and completing their inquiries; and even at ensuring that the CIG met. All CIG members were very vocal in insisting that the external coaches not be phased out, as originally planned in the reform effort (IESN Council Meeting Notes, Apr 2000). While the coach played an enabling role, it may be that the coach also held the onus of accountability, rather than the CIG members taking that responsibility upon themselves.

Nor is it justifiable to conclude that the school culture had yet developed to that of a learning community. The original intent of the grant was to promote the activities of the CIGs throughout the school. The challenge of doing so in four years became apparent during the initiative. However the schools and the IESN coaches remained hopeful that such growth would occur after the reform effort ended. CIG members had commented on how valuable and important this work was to them both personally and professionally for student learning (IESN interviews, Spring 2001, Spring 2002; Coach Meeting Notes,

2000-2001, 2001-2002; CIG Reports; Note also that these comments were echoed again in the collection of data four years later.)

In reviewing the work of the change effort and the comments of the coaches it is apparent that much of the work of developing a learning community was about developing a new ethos for teachers. For example, teachers had to move from an individualistic stance as a professional to a collaborative one. From their practice being private, to being public. From being the sole speaker to a group of students, to being an active conversant with peers. From considering only the four walls of their classroom, to considering the larger system. All these required teachers to develop a new professional culture. At the same time that they were changing to a new professional culture, they were learning new techniques to improve student learning in just such a culture. As noted by Teresa from Thoreau it was “like trying to change the wheels while the train was moving” (Teresa, 15 August 2005). So, for example, while teachers actually undertook the process of “looking at student work” (which provides information about a teacher’s practice) they were also learning how that process worked. At this stage, lessons learned by teachers were as much about their own ability to be open to critique and public inspection and to interact successfully with peers as to what the student work had to say to them about their classroom practice. So the schools were just beginning their journey at the end of the four years; the complex journey of both developing a new culture and practicing new tools to live within that culture. The next chapter will look at the follow-up data, collected four years after the reform effort ended and answering the question “Where are the schools now in their development as learning communities?”

Table 12

Side-by-Side School Comparison of Learning Community Development

Five Disciplines	Dewey	Emerson	Pierce	Thoreau
<i>Personal Mastery</i>	➤	➤➤➤	➤➤	➤➤➤
	individuals reflect on practice to make adjustments to practice	strong commitment to improving writing & environment-related instruction	individuals study own practice, little sharing with other CIG members	strong focus on student learning; individual inquiries into teaching practice
<i>Mental Models</i>	➤➤➤➤	➤➤➤➤	➤➤	➤➤➤
	multi-age; democratic; portfolio / narrative report cards	multi-age; writing as process; K-8 view of student development	student and subject share focus of teacher; Block 8 schedule	student as focus of learning rather than subject as focus of teaching
<i>Team Learning</i>	➤➤➤	➤➤	➤➤➤	➤➤➤➤
	learning occurs within culture of collaboration and self-examination; peer coaching	constant among members inside and outside of CIG	efforts to bring learning to whole staff	regular use of CIG to learn from one another's practice
<i>Shared Vision</i>	➤➤➤➤	➤➤➤	➤	➤
	strongly held and articulated by all including parents and students	in written docs; multiple aspects designed around vision	identified in written documents	identified in written documents
<i>Systems Thinking</i>	➤➤➤➤	➤➤➤➤	➤➤➤	➤➤➤
	coherence in implementing vision; strong student / parent voice	coherent plan for curriculum; value of parent input recognized	balance between classroom & whole school focus; some input from students & parents	balance between classroom & whole school focus; some input from students

Collaborative Inquiry	Dewey	Emerson	Pierce	Thoreau
<i>Collaboration</i>	▶▶▶▶▶	▶▶▶	▶▶	▶▶▶▶▶
	strong collaboration in decision-making and instruction in multi-age cohorts	dedicated; teacher inquiries support CIG learning and inquiry focus	strong dedication to meeting but teacher inquiries not central to meetings	strong dedication to collaboration in CIG and developing among faculty
<i>Inquiry Stance / Asking Questions</i>	▶▶▶	▶▶	▶▶▶	▶▶▶▶▶
	strong regarding effectiveness of community development and student learning; teacher inquiries not central	various prof dev activities require asking questions; inquiry is core of teacher prep program	teachers asking questions of own practice; CIG asking questions of effectiveness of school efforts, but not practice	questions organize all of their work; inquiries into practice
<i>Using Data for decision-making</i>	▶▶▶▶▶	▶▶▶	▶▶▶	▶▶▶
	well developed collection and consideration of data	regular collection of writing; analysis skill still developing	large amounts of data collected; strong knowledge of data analysis; not always used	novice level but systematically collects for personal practice
<i>Reflecting</i>	▶▶▶	▶▶▶	▶▶▶	▶▶▶▶▶
	regular reflection on effectiveness as school and on practice; “improved practice journals”	use of reflective journals; reflect on practice with pre-service teachers	use of reflective journals; thoughts reflective in interviews	highly reflective on own practice and perspective of others
<i>Sharing / Public Exhibition</i>	▶▶	▶▶▶▶▶	▶	▶
	reform effort required; transparency with parents & students	as required by reform effort; host critical friend visits	as required by reform effort; extensive CIG records	as required by reform effort

Envmtl Factors	Dewey	Emerson	Pierce	Thoreau
<i>Collaborative Structures</i>	▶▶▶▶▶	▶▶▶	▶	▶
	regular in-school time for collaborating	occasional in-school time; team meetings; other prof dev has some in-school time	occasional in-school time for meeting	occasional in-school meeting time
<i>Administrative Support /Resources</i>		▶▶▶▶▶	▶	▶▶▶
	supportive but ineffectual due to short tenures	participates regularly in CIG; acquires additional resources	permits participation in reform activities; depends on CIG for ideas	supports reform effort; depends on CIG for leadership; invitational to staff
<i>Relational Integrity</i>	▶▶▶▶	▶▶▶	▶▶▶▶	▶▶▶▶▶
	very respectful; support and challenge is consistent	support present; little evidence of challenge though articulate willing to be challenged	supportive of each other; committed to one other by regularly meeting; willing to challenge ideas, not practice	respectful tone; very willing to challenge practice of each other
<i>Enablers</i>	▶▶▶▶	▶▶▶▶▶	▶	▶
	reform effort enablers plus parents & students	reform effort enablers plus critical friend visits and university	reform effort enablers only	as provided by reform effort only
<i>Coherence</i>	▶▶▶▶▶	▶▶▶▶	▶	▶▶▶▶
	multiple aspects of school support democratic learning community	spiral curriculum on environment; writing continuum and prof dev for whole language goal	school improvement plan as framed by CES principles; data collection not coherent	connection to school goals of multiple change efforts

CHAPTER V

PRESENT: FOLLOW-UP DATA AND ANALYSIS

Chapter V examines evidence about the status of each of the four schools as learning organizations four years after the funding for the reform initiative ended. During those four years each school has taken its own journey in continuing the change efforts begun during the initiative. None continued to have collaborative inquiry groups that met regularly as they did during the initiative. None had the funding to employ a school change coach nor were there networking opportunities available as there had been. The journey of each school is described in terms of the elements outlined in the analytical framework from Chapter II and descriptive themes that emerged from the data. This information is then summarized in a chart like the one used with the data from the implementation phase of the project in Chapter IV. Following the chart is a discussion of the changes from the summary chart in Chapter IV to the summary chart for the follow-up data in this chapter. These descriptions and comparisons are then used to discuss parallels between the schools in the next chapter.

Thoreau's Journey

Changing Leadership

One year after the reform initiative ended, Thoreau's long-serving principal retired. Though the superintendent of Thoreau's district was supportive of Thoreau's participation in the reform effort (the district had served as fiscal agent for two of the years of the initiative), the new principal hired was not versed in the project's activities.

The principal took a more traditional leadership role, rarely sharing responsibility for decision-making, and holding a vision of the typical hierarchical staffing structure of a high school. For example, as Tom recounts, “This is my conversation with the principal... he made the comment, ‘You want me to write a mission statement, I’ll write a mission statement.’ And see, right there is the comment, the problem that I run into. His idea is, it’s him making the statement instead of all of us as a community, as a school, making the decision on a mission statement”(Group Interview, 15 August 2005, 96-100). This is echoed by other CIG members describing the school as without a shared vision, even though the NCA and school improvement plan still carry the mission statement developed years prior. As Teresa notes, “But in order for the staff to buy-in, first of all they have to be part of the conversation and understand it. Secondly, we all have to get that feeling that we’re all pulling in the same direction” (Group Interview, 15 August 2005, 109-111).

For the teachers involved in the change effort who had been part of the school leadership team (which was disbanded by the new principal) it is very frustrating and demoralizing. One of the CIG members was told by the principal that he could not hold any position of leadership in the school. All note feelings that they have been silenced. Simultaneously the teachers are able to recognize that they and the current administration “have had different experiences,” and are “not speaking the same language” and that “they may have seen us as contrary to what their beliefs are” (Group Interview, 15 August 2005, 53; 66; 55-56). However, as noted by Sandy, the wide-spread staff participation required of the North Central Accreditation process recently undertaken had been ignored, indicating that there may be a reluctance on the part of the school leadership to

gain multiple perspectives.

The CIG members view the principal as reactive, applying “band-aids” rather than being pro-active.

“It’s a band-aid and that’s a key, a really key, concept or word. That’s typically the administration we have right now. We put band-aids on things when they come up and part of that is because we don’t have any large concept of what we’re all about. But I’m giving him the benefit of the doubt. Is it, he and that administration, or does it go back to NCLB and ISTEP. I don’t know that pressure” (Jill, Group Interview, 15 August 2005, 133-137).

Though unhappy with the administrative response, they note, at the same time, that the pressure from outside sources, due to Indiana’s Public Law 221, NCLB, and mandated standardized testing, is different for this principal, and that the responsibility for achievement is being laid upon his shoulders.

This concern for broad-based participation, a shared focus, and a big-picture coherence on the part of the CIG members, as well as their ability to consider multiple perspectives, indicates systemic thought. This, despite the fact that the school as a whole is not currently exhibiting such thought, nor does the CIG seem able to influence its use in the school. Though two of the CIG members are department chairs, and a third oversees counseling, they discussed department chair meetings in the first group interview as not being very effective. They spoke of agenda items sent back to the departments for discussion that were never placed on the agenda again; time lost due to poor facilitation; and discussions on whether practices used by other schools should just be duplicated at Thoreau without tailoring a response based on the unique needs of the

Thoreau context. All of these conflict with the mental model these teachers hold about school as a learning community. While there is no evidence of the teachers practicing the discipline of mental models by purposefully examining them, it may be that the environment in which they find themselves constantly provides that challenge to those models.

In general, the CIG members do not feel the current administration (at any level) is supportive of the development of a learning community. For example, they see the current state and federal mandates as contrary to the work of the change effort, limiting student choice, authentic assessment, and student exhibitions. Most importantly they view the current principal as not supportive of the reform effort ideals. As demonstrated in this exchange they fear even meeting on their own as a CIG:

Sandy: Back to CIG... Really down deep I want to do this, but inside of me I am scared.

Teresa: I am too.

Sandy: I am scared that it will be used against me. That I will be accused of....

Tom: conspiring

Teresa: conspiring

Sandy: ... working against administration. That I would be accused of “all you do is talk about... or instigate hard feelings” I would say about 90% of the time we always talked academics...

Teresa: We did

Sandy: ... but 10% of the time we may get up on an issue that we were upset about. But that was our venting group also.

Teresa: Absolutely

Sandy: And it helped emotionally and psychologically. I am actually scared to meet after school..

Teresa: I am

Tom: I’m not

Sandy: ... because I feel like... down deep there’s something - I’m willing to do it, but I still have that fear down there that it’s

going to be used against me.

This fear appears to be more than a perception on their parts, as they related incidents where they had been told that they were undermining the administration, particularly, when they would ask the “Why” questions about school practices they had learned to ask as part of holding an inquiry stance.

Thus school-wide, particularly in areas where teacher leaders are meeting with the administration (department chairs, school leadership team (before it was disbanded)), there is not the mutual respectful support and challenge that provides an impetus to growth and change. The teachers acknowledge that a safe space needs to be created for change to happen which takes work and effort that is not currently occurring. Individually the members of the CIG continue to support each other, though it is described more as a role of moral support in a setting where they are not feeling valued.

“Collaborative Inquiry-esque” Opportunities

Yet, within this seemingly hostile environment, the CIG teachers found other avenues, most compatible with the activities in the reform initiative, to pursue school change. The most obvious example is the Freshman Literacy program. “I think sometimes we beat ourselves down that we are not doing Network things, or we’re not doing CIG, but we’re still doing some neat things that fall right underneath those categories. The Freshman Literacy Workshop definitely is” (Jill, Group Interview, 15 August 2005, 187-189). Freshman Literacy was developed by teachers at the high school with the district curriculum development director. The program, where-in a group of teachers work daily

with students on their literacy skills, was a response to two factors. First, a perceived need on the part of the staff that freshmen did not come to the high school with the requisite reading and writing abilities to succeed in high school. Second, the need indicated by low score results on the state standardized test in this area.

All of the members of the CIG went through the Freshman Literacy professional development activities, with most being the trainers for the activities. Those teachers who work with students on literacy skills do so instead of taking a study duty. This does require the cooperation and agreement of other staff who pick up extra students during their duties. This collaboration to accomplish a long-term and school-wide goal indicates some systems thinking and shared vision on the part of the whole staff.

The group of Freshman Literacy facilitators meet weekly during school time and regularly outside of school time to discuss their practice and to plan ways to extend their knowledge to others. While not formally doing inquiries, these sessions operate similar to a collaborative inquiry group, sharing and discussing readings, considering practices that are and are not working, offering support to each other, and exchanging ideas about working with the students. This group also developed, and invited staff to attend, sessions at which staff members could learn how to use and develop these same literacy skills with all students in their classes. Most staff members participated in this school-wide team learning activity. Thus the implementation of the Freshman Literacy program involves collaboration, team learning, personal mastery, and an inquiry stance. Its inception was based on a study of data and the need for a different approach (or mental model) in helping freshman succeed. The development of the program even used the district

curriculum director in the role of an enabler.

A couple of the CIG members are also involved in developing a new program for students to pursue their own interests and passions. Teresa explains,

[Another teacher] went to a conference and she got this idea of doing an independent study semester course for exceptional kids that had a real passion for something. We developed the whole rubric and they have to keep a portfolio and they have to... It's *Define, Develop, Do, Defend*. And we just did those. So that was definitely from "collaborative inquiry-esque" work (Group Interview, 18 January 2006, 303-306).

This concept of students exhibiting knowledge, working independently, and pursuing their own interest is a critical one in CES work. The focus for CIGs during the initiative, particularly to Thoreau, was how to develop this in students. Portfolios compiling evidence of knowledge and skills gained or achievements reached was promoted during the reform effort for students, teachers, CIGs, and schools. So for these CIG members, *Define, Develop, Do, Defend*, as well as Freshman Literacy, continue the work begun with their CIG during the initiative.

Other examples of team learning occur, it being the most practiced of the disciplines at Thoreau, though as with the practice of all disciplines it is limited in its effectiveness. A data workshop that was well received was only attended by a segment of the staff and the information never shared. While there had been a regular sharing at faculty meetings of learning from professional development activities, that sharing was dropped by the new principal. There was a voluntary book club, where educational readings had been discussed by a small group of people for a short time. There was an attempt to read common articles with the department chairs but there was no follow

through on discussing the articles. Lack of facilitation or missed opportunities for team learning were most often noted as the cause of the limited effectiveness of team learning.

Feelings of Loss

Though opportunities exist to participate in CIG-like work, throughout the interviews there are comments indicating a sense of loss. These mostly center around issues of alienation and lack of participation in developing the learning community the teachers want. The following two excerpts are telling examples of the frustration these teachers feel.

Jill: I think that's a very, very important component. Because I, like Teresa, thought a lot about that over the summer too. Those of us who were involved with the Network, are feeling as if we're not valued and our input is not important and there are some other people who are feeling very valued, because they are now involved in the new reform or new whatever it is called. And I think that's....

Tom: I think the best story I can come up with that goes along with this would be, when we had gone to New Mexico with the Coalition, one of the individuals who wasn't part of it comes up and says "Oh, you mean those people, who went away." And they obviously felt like, at that point in time, they were not valued. While all these other individuals got to go to all these [events] to be rejuvenated because they had bought into these different things, they felt that way. I think right now, that's what's happening here. I think you hit it right on the head...

Teresa: Absolutely

Tom: ...is that we feel that we put a lot of time into our school, try to help out our school, and we feel that now we are nothing.

Jill: I think there is one, maybe, small difference. I think that back in those days we put out the invitation for everybody in the building...

Teresa: Absolutely

Tom: Right

Jill: ... and they chose whether they wanted to be involved in it or not and some people chose, for whatever reason. Now that I'm getting older, I'm a little more understanding of why people chose not to

get involved, because there are lots of things on people's plates...

Tom: {agrees}

Jill: ... that I didn't have back then. The difference now is that we don't feel that we are being even invited.

Tom: {agrees} (Group Interview, 15 August 2005, 244-273).

Excerpt two:

Teresa: I think in Jack's case, and my case too, for whatever reason the two of us have been completely shut out.

Tom: Because, again, they are contrary to your thought processes. People who are in charge are "Listen to what I have to say" and you are like "Give us a voice to help us understand it." You are looking at two different personalities. And when you confront a personality that is very, everything is top down... In the military, good luck being a private telling a sergeant, "This is the way it is supposed to be."

Jill: Or not even necessarily saying that, but "I don't necessarily agree with that, could we talk about it?"

Teresa: That's all I've said.

Jill: Yes, but you don't do that in the military either. You just do it. Without complaining, without whining. This is the way it is going to be. That's not how it used to be here.

Teresa: No

Jill: We used to have conversations about why we do things, and part of the reason we had those conversations is because our vision and our mission was something we all generated together. We all had convictions about it and we had common belief. And we don't necessarily have that now. So you run up [against] a brick wall. So you are seen as sabotaging. Because, I was told I was sabotaging.

(Group Interview, 15 August 2005, 280-308, edited)

During the year the interviews were conducted, Thoreau teachers learned that Freshman Literacy, which in their perception is a successful program for students, could no longer be implemented as it had been. To implement the program the staff had scheduled time for focusing on literacy with students. A review by the state determined that there is not enough seat time in the other subject areas. The only way to rectify this is to decrease the time spent with freshman on literacy; however to do so means a loss of the

effectiveness of the program. While they hope that they can somehow salvage some of the program, most CIG members see it as dead. This adds to their sense of loss and powerlessness as their ability to make decisions locally for their students is taken away in this instance. Teresa, particularly, is troubled by this when she complains, “The whole notion of local wisdom has just vanished” (18 January 2006, 28).

More importantly, probably, is that their wisdom is not valued locally. As noted earlier the distributed leadership that at one time had given them the feeling of empowerment has disappeared, leaving them without input into school-wide decisions or a way to impact change on a whole school level. This loss combined with their fear of meeting has led them to work more individually, getting needed support by talking with just one other person at a time. As Teresa discusses collaborating “clandestinely” she says that the purpose of these conversations is “how are we going to keep our heads up and keep the focus in our classrooms still going” (18 January 2006, 59-60). Teresa expresses the challenge they each feel working in a whole school environment that does not value broad participation of teachers and students in school change, which value they had begun to foster during the reform initiative.

Carrying the Torch On an Individual Basis

When responding to a question about the practice of personal mastery, Jill, Tom, and Sandy all speak of a decrease in individual efforts; a decrease in professional reading for Jill and Sandy, while Tom discusses not being disciplined enough to do it on his own. All three agree that the structure of the reform initiative provided a pressure to improve

their personal mastery and that such pressure is an important element for each of them. (This was consistent with comments noted in chapter four when schools spoke of the value of the coach and the other enablers as holding people accountable to doing the hard work of change.) Only Teresa speaks of her individual activities in working with the new gifted and talented project and her work with tutoring as areas where she is developing herself. However all are, or were, involved in Freshman Literacy and other school-wide professional development activities. Each person also notes that she/he is constantly reflecting on classroom practice, usually around ensuring student success, but only Teresa mentions the use of journals as a formal reflection process with new teachers that she mentors.

The issue of personal mastery is taking on new challenges as teachers try to meet more demanding needs of students. As Teresa poignantly points out,

I think my philosophy is in still basically the same place. What makes me change most is class size. And how much I have to differentiate. Do I have emotionally challenged kids? Do I have physically challenged kids? When I have Cathy she needs you five seconds ago, and if you aren't tending her needs, she is up holding your hand, holding you.... So I have to really be on top of my game. I worry about it. I don't sleep the night before because I know not to do that. And I have to think 'Okay, now, I can see this happening and it has happened. How will I get Cathy soothed yet keep everyone else engaged?' I still do a lot of projects, more authentic assessment, and I have four different levels and all four are doing a semester project, which I know is best practice. I know it is. {emphatically} But having the resources and the time and the grading. (Teresa, 18 January 2006, 65-77).

This lack of time is echoed by Tom who says, "I am not disciplined enough with all my other activities and all my other things to sit there and actually try and improve my students' learning, which is sad" (Group Interview, 15 August 2006, 481-482). And Jill,

“But at the same time I tell myself that I’m not doing a very good job of being a learner because you have way too much to keep up with, day to day stuff, and there’s nobody to push me to do it” (Group Interview, 15 August 2006, 999-1003). These additional pleas are for an enabler, someone or some process to keep themselves accountable to what they know is important to do, but challenging to accomplish when there appear to be more pressing issues. “Maybe that is, all the state mandates, the things that you have to do, get in the way of what you know you should do or wish you were doing” (Teresa, Group Interview, 18 January 2006, 206-207).

While most of the CIG members note that their pursuit of personal mastery has lessened in this less collegial environment, their practice still attempts to maintain the instructional style and teacher-student relationships they had begun to implement during the reform years. Jack speaks about his continued work on student exhibitions of knowledge, Tom about gaining input from students to improve or adjust instruction, Teresa about collaborating with students on the design of learning experiences, and Sandy about promoting the rigor inherent in the “student as worker” concept.

This individual approach to the learning process, which is accepted in the more traditional school setting they find themselves, appears to help them cope with a larger environment they do not find conducive to developing the learning community they want to be. They can continue their work on teaching and learning within their own classrooms without interference from the administration. Though, as a few of the teachers note, this leaves them without a mechanism to push development of their own personal mastery. The loss of the CIG also means a loss of support necessary for maintaining the extra work

their belief system entails. The discussion of this point during the second group interview is best summed up by Jack's comments:

It's stuff like that, that you miss collaborative inquiry group, because you actually had a chance every two weeks to sit down and learn new things about which you had no clue or to get recharged. That was another aspect of it. It's also a place that I felt like we could go where we could have other people who knew that coverage, as defined by CORE 40 and all that other stuff, is the wrong way to go, and get a little support in that. Better for kids to use their brains and minds well, be a worker and do it; to have experiences and all the rest of that rather than cover 25-30 chapters out of a book. And you don't get any of that now. Now it's just you feel this weight on top of you, just flattening you all the time. Standards, standards, standards. You have to cover all these standards. You have to cover all these standards and even though you know you can't do it, no matter what you do, you have that force on you and collaborative inquiry group, and especially when we would go somewhere, because we were with thousands of people who said, "Bullshit. This is just crap." But just trying to fight that, that pressure that you feel constantly from that. I'm probably about as philosophically opposed to that as anybody and I still find myself caving in. Every day. Every day. I know if we were together in CIG every two weeks, that wouldn't be happening as much. I would be going out of my way to find ways to get around coverage (Group Interview, 18 January 2006, 306-317; 322-326).

At the same time, as most of the CIG members were mentors for new teachers, they speak of providing just such a support and challenge to the new teachers with whom they are interacting. Tom explains why he does it:

I, personally, I think it's because of doing the work to begin with, the work with the Coalition, and seeing the value. ... It helped me so much and changed me so much in terms of trying to become a better teacher and trying to experience and become the best teacher that I can be that when I see a new teacher come in, I know that they are going to be struggling. I want them to learn to grow because these kids need it, the kids in general. It's more of a caring attitude towards improving the students. In order for that to happen I see the best way to do that is to hit the newer teachers. I think all of us have incorporated or talked to or dealt with the new teachers whenever we could" (Tom, 23 March 2006, 435-442).

Paul, a new teacher who is supported by all of the former CIG members individually, but particularly by Tom, has this to say, “Tom was awesome last year. I remember I sat down and showed him a test. He was like, ‘What’s this?’ He just drilled me. It was wonderful because he got me out of it and started me thinking” (Group Interview, 18 January 2006, 374-376). The CIG members have an understanding of teaching and learning that they feel best ensures that students receive a good education. It appears that for these CIG members developing that same understanding in new teachers is one way to carry on the work. One interesting side note is that other staff members direct new teachers to these CIG teachers for such mentoring.

Through interactions with new teachers and informal conversations during prep times the CIG members maintain the relational integrity necessary for collaboration. Though all the teachers claim that they miss CIG and extol its importance, as noted earlier, they are reluctant to continue meeting. However, with a large component of the group involved in Freshman Literacy those collaborative meetings may have helped fill their need. In the past year with fewer of them involved in those meetings, they may now feel the need more. Evident of that need is that our discussion at lunch after the first interview evolved into a discussion of practice. Then, during the second interview, there were four different times where the group began discussing practice with each other, each time the discussion having to be, unfortunately, cut short due to my data collection needs. After the group interviews, they began to meet again as a group, every other week, to discuss practice (Tom, 23 March 2006).

Table 13 summarizes the characteristics for Thoreau in each of the 15 elements of

a learning organization. As in Chapter IV the table is divided into three sections, each section demarcated by shading the row. There is a section for the practice of the Five Disciplines, with one column for each of the disciplines. The second section presents each of the five elements of collaborative inquiry discussed in Chapter II (one per column). The last section reviews the five environmental factors. In each section there are two rows of cells. Each cell in the first row of each section is an evaluation of the level of development for that element, with the key for that evaluation at the top of the chart, next to the school name. Each cell in the second row lists the key evidence that led me to the evaluation. While not absolute in an any objective sense, the table highlights the mix of strong elements that characterize the unique development of Thoreau. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix H.

Table 13

Summary of Learning Community Characteristics for Thoreau in Follow-up Data

Thoreau	▶▶▶▶ = is part of school culture ▶▶▶ = is practiced regularly		▶▶ = is practiced occasionally ▶ = is valued but not necessarily practiced	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶▶▶	▶▶▶	▶▶▶▶	▶	▶▶▶▶
strong focus on student learning and developing practice through reflection; use of inputs from others less than during reform	student learning as focus; student as worker mindset still strong in all CIG teachers	number of activities such as book club, Freshman Literacy workshops, 4-D workshops, but not all effective	identified in written documents; not seen as present in school by CIG teachers	Not evident school-wide, CIG teachers work in multiple perspectives, a process orientation, and a coherence for focus
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶	▶▶▶▶	▶▶▶	▶▶▶▶▶	
CI not practiced, but desired; some projects have collaboration and qualities similar to CIG	Present in individuals with their own work and with their perspective on whole school events	novice level but collected for personal practice; almost no school wide use	highly reflective on own practice and perspective of others	not occurring
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶▶▶	▶	▶▶▶▶▶	▶	▶▶▶
occasional in-school time with Freshman Literacy; School Leadership Team disbanded	minimal support for some professional development	very respectful tone; present on individual level; CIG members mentoring new teachers	present in Freshman Literacy program	Freshman Literacy supports school goal; no evidence of plan for coherence

Changes in Practice Since the Reform Initiative Ended (See Table 14 for chart version)

Five Disciplines: *Personal mastery* has been sustained at the same level of development, based on the evidence, though teachers feel they have reduced their efforts at keeping up with learning on their own compared to what they did during the initiative. Each continues to hold the *mental model* of education developed during the change effort, but there is no concerted effort to practice this discipline. *Team learning* is still strong, even without the CIG operating, and is the strongest practice school-wide. Some sharing opportunities with the larger staff have been abandoned, most likely due to the change in leadership. There is no apparent change in *shared vision*, but there was little evidence historically of its presence. The teachers in the interview perceive the shared vision as no longer being present, and the lack of full staff conversations indicates that attempts to develop one are non-existent. *Systems thought* remains strong for the CIG members, though it is not apparent as a component of school-wide thinking.

Collaborative Inquiry: Collaborative inquiry is no longer practiced as a formal process and the CIG is no longer meeting. However, replacement activities, the development of which were influenced by the original CIG members and therefore took on some of the characteristics of CIG, are present. *Collaboration* has lessened due to the decrease by the principal in opportunities for such as well as by the perception among CIG members that collaboration is unsafe. *Inquiry* is still strong individually, though the presence it had school-wide at the end of the initiative is no longer apparent. Teachers still state that it is still part of their individual practice, though the discussion implies that it is happening more informally than in the past. The *use of data* continues, but appears to

be less school-wide, as indicated by its lack of use when considering new practices for the school. Rather than collecting data as a regular component of individual practice, it is done intermittently now. The CIG members remain *reflective* on both their practice, the school, and the experience of the students. It is easier to maintain this practice on an individual basis, though the written reflection done during the initiative is only practiced by one of the teachers. *Public sharing* of practice outside of school was non-existent, though the work that CIG members do as mentors to new teachers could indicate a continued willingness to publicly share on their part.

Impact of Environmental Factors on Development of a Learning Community

Oddly, it would seem, there is an increase in *collaborative structures* as an element due to the gain of in-school time for Freshman Literacy facilitators to meet. At the same time, though I still coded the factor as having an increase, there is a reduction with the School Leadership Team being disbanded. *Leadership* seems to have had the greatest change and impact as it affected a number of practices above and the collaborative structures element. The administration does not appear comfortable with activities that share decision-making, though is supportive of those elements, such as Freshman Literacy and the 4-D's that focus on instruction and student learning. The *relational integrity* of the group remains strong. They are very goal-oriented and committed to school improvement and the profession. They have continued to maintain the relationships begun during the initiative. Thoreau did use the Curriculum Director as an *enabler*, but there was no evidence of seeking out anyone else, so it remains at the

same level it was at the end of the reform initiative. Coherence has lessened, impacted by leadership, though there are still attempts at coherence to meet requirements for the school improvement plan and their accreditation process, such as having professional development that supports school goals.

Overall, Thoreau seems to have maintained those reform practices that could be practiced individually, though the lack of interaction with other perspectives may affect the quality of those practices. Comments from the teachers seem to imply such a loss of quality, if not a loss of opportunity to practice. The change in leadership has impacted the decrease in school-wide practices. As a learning community, both the school and the CIG, are less developed than four years ago.

Table 14

Changes in Thoreau High School Since the Reform Initiative Ended

<i>Personal Mastery</i>	maintains apparent strength, though teachers feel less	teachers participating in team learning opportunities
<i>Team Learning</i>	slightly lessened as fewer opportunities but still strong	other opportunities have presented themselves
<i>Mental model</i>	maintained model; not practice of discipline	
<i>Shared vision</i>	no apparent change	school-wide there was never much evidence of this
<i>Systems Thought</i>	maintained for CIG members; not school-wide	no coherence of efforts
<i>Collaboration</i>	lessened; mostly informal	opportunities decreased
<i>Inquiry Stance</i>	maintained for CIG; not apparent school-wide	school not asking “why”
<i>Use of data</i>	continues, but less school-wide data analyzed	maintain minimum data collection for state
<i>Reflection</i>	maintained individually, though less formal	lack of use of reflective journaling
<i>Publicly sharing</i>	not existent	
<i>Collaborative Structures</i>	slight increase	in-school time for collaboration increased
<i>Administrative Support</i>	lessened	
<i>Relational Integrity</i>	remains strong	informal conversations with each other and new teachers
<i>Enablers</i>	maintained status, but low	used curriculum director for Freshman Literacy
<i>Coherence</i>	lessened, but still existent	attempts to align professional development and goals

Emerson's Journey

Developing the Big Picture

Emerson was the only school that retained the same principal all throughout the reform effort and into the years following. (It should be noted that she moved to the district's central office during the year of this study.) In that regard it offers a counterpoint to the other schools with changing leadership. The principal at Emerson was a strong supporter of the work of the reform, and of IESN, holding a position on its board. She worked hard to affect change on multiple fronts to improve learning for the students and to provide the resources needed to support the multiple efforts to affect each of those fronts. While the principal provided the impetus for these efforts each was developed through a shared decision-making process in line with the democratic focus of the school and that the principal sees as a legacy of the reform initiative (Group Interview, 11 August 2005, 204 - 209).

One such effort was a proposal for Emerson to be a magnet school with a focus on ecology and the living environment. The district accepted the proposal at the same time the reform effort ended. Two benefits came from receiving this status. First, it provided a theme around which the school community could hold a shared vision and to which they could cohere their efforts. Second, the status meant additional money from the district for professional development and learning resources. With these funds they were also able to have Sally, one of the middle school teachers and a CIG member, work as a full-time coordinator to aid Emerson's development as a magnet school. In this role Sally coordinated student environmental activities, assisted teachers in developing lessons that

connected to the environmental theme, and worked on professional development for teachers. Sally sees her role as one of support and challenge to the teachers at Emerson (10 November 2005, 283-296). So in addition to Sally fulfilling the role of an enabler, the district monies also paid for three consultants, one for each group of teachers (K-2, 3-5, 6-8), to enable them to design instruction to support the focus on the environment and provide feedback on that instruction.

Secondly, the principal was able to dedicate resources so that Emerson could continue its work on writing that began during the change effort. A consultant from the National Writing Project was hired to come three times a year to model the writing process with students and develop the ability of teachers to use that process in their own classrooms. In these sessions the consultant was an enabler, both offering support and critique as the teachers attempted to implement the writing process in their classrooms. Just prior to this study, Emerson used its connections with the university with whom it had the pre-service partnership and a local writing organization to join two other schools in a receiving a grant that enabled this work to continue for another three years. This added the opportunity and benefits of networking with other schools, providing another enabler. Nearly every Emerson teacher is involved in the half-day group sessions with the consultant, practicing what they learn in between consultant visits.

As it had done during the reform effort Emerson continues its role as a partner school with the School of Education at a local university. In this partnership professors teach courses on site and discuss teaching and learning with the staff. Pre-service teachers continue to bring new ideas to the in-service teachers, engaging them in conversations

about learning. Both professors and pre-service teachers continue to act as enablers as the Emerson staff continue to publicly share their practice with them. One additional element of coherence at Emerson is that the tenets of the Writing Project are taught by the university. Pre-service teachers were also invited to participate in the Writing Project sessions, strengthening these two groups acting as a network of practitioners.

During the change initiative, the Emerson staff had been studying a move to a multi-age classroom design, finally doing so in the third year of the reform effort. It also began expanding into a middle school with plans to add a grade each year. This move was strongly supported by the principal as a move to better serve children and their development. While it was studied for three years, and given a supportive vote by the entire staff the actual buy-in may not have been as great as it would have appeared. After two years the move to multi-age was contested by a group of teachers as not being very effective. Described, in the group interview, as a “tumultuous” time, an uncertain buy-in may have been a contributing factor to the dissatisfaction of that group of teachers. Tisha continues the story, “I think we were about to lose multi-age and go back to teaching one single grade. And because of some people knowing that it may be done away all together, we talked up looping⁴ as maybe an alternative rather than going back to just one grade level (Group Interview, 11 August 2005, 427-429). Thus teachers continue to spend more time with a group of students, but decreased the range of abilities for which the teacher had to plan. The principal saw this as a disappointment, and a move away from the shared vision.

The simultaneity of all these activities is consistent with systems thinking. Writing

workshop is process-oriented and the perspective inherent in the writing continuum is a whole child/whole school experience. The environmental focus fosters a shared vision and acts as an organizer around which the curriculum is arranged. Both the work in multi-age classrooms, and later, looping, involves a viewpoint of developing the whole child over time (a more holistic or systems perspective), rather than just a view of development for a fraction of the student's school learning experience, that of just a single grade.

Within a year of the initiative ending, two key CIG members moved to district level instructional coaching positions. These two teachers were part of a trio of the most staunch supporters of the work done during the initiative. This increased the challenge to Emerson of continuing the work of the reform in the face of new pressures from legislative mandates. However, for these two teachers the reform activities continue. As Jolene said, in response to a question about what of the reform she still sees present in her work, "It is exactly what I am doing right now" (30 November 2005, 3).

As enablers by virtue of their position, these two staff members have carried on the ideas and tools from the reform effort into their current situations. In her interview, Jolene discusses using the *Looking at Student Work* protocol she learned through the initiative, "Teachers spend their planning time looking at student work. The protocols that look at writing that were so powerful to our [CIG] group, I felt like they will benefit from it" (30 November 2005, 225-227). Jolene also stresses the value of CIG, "I talked to staff about CIG. 'I know you are overpowered with everything, but there are some books out there that will help us along – somebody else's point of view'" (30 November 2005, 222-223). Just as importantly she realizes her own need to be a part of a CIG, describing her

interaction with other coaches in the district:

“We have to have a CIG, just the three of us.” We even went as far as we met one Friday night because there was a grant from NEA for that – our teacher study groups. We started it, but things happen and we didn’t finish it. It’s still out there if we just do it” (Jolene, 30 November 2005, 219-221).

While the loss of these key staff members most likely diluted the strength of the reform effort at Emerson, the ideas of the reform effort are seeping into other schools through the efforts of these former CIG members acting as instructional coaches. This effect was also noticed by Coe (2000) in her study of a leadership cohort who were taking the ideas they had learned through a shared professional development experience and spreading them to new settings. Change is occurring, but dispersed on a small, less discernable scale.

The multiple efforts for change at Emerson are working together to develop the big picture that is described by the mission statement. The evidence does not indicate a synergistic relationship among these efforts at this point. While the loss of key staff members has increased the immediate challenge of creating the change Emerson staff is seeking, the work of those former staff in the larger district context can mean a more supportive district-wide environment for Emerson.

Getting the Vision of the Possible

Tisha: But at the same time it has taken a while to really learn Writing Workshop and do it. This is the first year that I have been able to stick to my curriculum calendar and stay with it. Say “this is what I am going to teach” every two weeks, three weeks, four weeks, whatever and then actually do that. Part of that has been learning to [do it]. I think we spent a lot of time getting the vision of the

possible {slight chuckle}

Sally: I think it does because there is so much to know and until you get in there and you're doing it, you start to see how it comes together... {pause} we're still probably just skimming the surface, but we're a few millimeters deeper into the surface, you know {laughs}

Tisha: Yes, all we could talk about at the beginning was "Alright, what exactly is published?" {laughs}

Sally: Oh yeah.

Tisha: Do I have to have all the i's dotted?

Sally: Oh my goodness. We talked about that so many times. I don't even know what the final was {laughs}.

Tisha: And now it doesn't matter that much. We try to revise for a few things, edit for a few things, and publish it {slight chuckle} and move on. Teach them something else the next time. I think that whole concept of teaching the writer instead of how to make this piece of paper so much better. What can I teach this writer today that's going to make this person a better writer and I think that's starting to carry through with the reading, with the math. "What can I teach *this* child, *this* day that is going to make them a better reader or going to make them a better mathematician?" "Now, okay, he doesn't get this piece of paper right, or that test right." That's not what's important. It's moving this child along helping him...

Sally: Is he going to do better next time?

Tisha: ...do better next time (Group Interview, 20 December 2005, 233-259).

Tisha has been teaching for over twenty years and been involved with the writing project since it began eight years ago. In addition she is an active participant in local activities of the National Council of Teachers of English. Her comment that she is just now at the point of understanding to implement the writing process well is telling. Each of Emerson's efforts requires this type of time to develop a depth of understanding necessary to implement the effort well. This points up one challenge to the schools, the time and effort it takes to re-learn, to develop that "of-practice" approach (Cochran-Smith and

Lytle, 2001) where both theory and practice are understood. This coupled with the need to do multiple simultaneous actions as required of a system approach only compounds the challenge. Thus getting to the vision of the possible for the whole system is not simply achieved.

Changing Contexts

Emerson in examining student data began to realize that its student population was changing. As noted in Chapter Four, the population was much more transient than they originally realized. Teaching based on the assumption that only a few students leave over the years, is not possible when in reality two-thirds of the population is changing every three years. Additionally, the changes in student population that are both racial and socioeconomic in nature. Concurrent with these changes discipline became a concern for teachers. To address this concern, school professional development time was spent with an invited speaker on the topic of classroom management. In discussing this activity in the group interview, Tisha had this to say:

This is why a book like “Choice Words” and discussions about Johnson’s book might help us with that piece because the difference between when we had the other kids and now is the way that many of us talk to the kids and the identity that we have given our kids. Until people see that clearly that we have given kids an identity of being certain types of kids at [Emerson], then we can’t change the discipline, until we change how we are going to see them (Group interview, 11 August 2005, 225-230).

As the population changes, mental models the staff hold are getting in the way of their ability to teach. With the workshop, there is some attempt to address these mental

models, but there is no on-going practice of the discipline that would help people expose those mental models. Changing context complicates the school change effort for Emerson, as the changes were originally planned with a context in mind that no longer exists.

Losing the Big Picture

Emerson is the only school that acknowledges that there are aspects of the current federal and state mandates that mesh with the goals of the reform effort. The one that is particularly evident for them is the use of data, its collection and analysis to determine success and need for improvement. At the same time they note that the time they had used for CIG and other initiative activities is now taken up by various meetings needed to address new legislative mandates (Group interview, 20 December 2005). The mandates also limit, as Sally states, their attempts to be coherent in their actions, “That partly goes back to, I think, we’re told to include certain things in that plan. And they have to be in there or your plan is not approved (Group Interview, 20 December 2005, 294-295). To which Tisha adds, “So we did that so we can pass NCA [North Central Accreditation] and not have to do that whole process all over again and then our administrator says, ‘Well it’s in the plan that you are going to do this, this, this, and this.’ So it puts us in a Catch-22. ‘You guys wrote this plan. You guys said that you were going to do all this stuff.’ That’s what I’ve been told” (Group Interview, 20 December 2005, 300-305). Thus while there is not buy-in to the details of the plan, they are required to expend energy on those details.

When asked about why their CIG does not meet any more, there was this exchange:

Tisha: I think it is just because we are met out. Meetings seemed to have slowed a little bit. But when you are meeting for NCA, when you are meeting for team meetings, when you are meeting for... people are tired of meetings. Especially meetings that don't seem to be all that productive. So people are tired. It is getting harder to do one more thing {laughs} And we keep adding...

Sally: I agree with that. I also think that {pause} I don't know, it's hard when you are involved in a group like that and you're working on and reflecting and making really serious attempts at improving your practice, but it's not like an official group. It doesn't go anywhere with the rest of the staff. It's not that it doesn't make it worthwhile, because it is still good for you individually and for the small group that you are with, that's still good. But then when you layer that on top of everything else that's going on and something ends up having to be sacrificed, I think, that, for better or worse, it's kind of the thing that ends up... because it doesn't end up having any larger impact (Group Interview, 20 December 2005, 68-79).

Time, and the necessity to use limited amounts of energy, to meet additional legislative mandates, leaves the work on their goals and the concerted efforts towards those undone.

Beyond the challenge of lack of time and energy, it affects the *shared vision* itself as Sally describes in this exchange:

Sally: And again, unfortunately I think it's one of those things where there's a list this long and things get bumped. If you look at the big picture the things that get bumped should probably have a higher priority. But we don't always have the luxury of looking at the big picture, and I think that it's hard to [look at the big picture]. I don't think that there's anybody, or if there is anybody, there aren't very many bodies that would say there isn't value to reading the books or having those conversations and so on and so forth. But I think that there are a lot of people who, although they would say there is great value in that, don't {pause} maybe have the energy or motivation or initiative to do it on top of everything else.

Tisha: It's harder when our time is itemized for us. And we no longer get

to decide what is important to us. So the things that are important to us, they get harder and harder to do.

Sally: And then before you know it, you've gotten so far away from where, what I am calling the big picture, of what you are really trying to achieve here because you are trying to make all these other little pieces of what is supposed to happen. Then suddenly the big picture is the extra {laughs}

Tisha: Right. Right (Group Interview, 20 December 2005, 97-129, edited excerpts).

In a brochure from 2000 Emerson describes itself as having a focus on “whole language, theme-based interdisciplinary studies, democratic processes, and environmental stewardship” (Emerson School Brochure, 2000, p. 2). Though not as succinctly stated, in the most recent brochure (2004) and school improvement plan for 2005-2008 the language indicates that all three foci continue, though whole language is now discussed in terms of the writing process. However, these foci do not necessarily support one another. For example, the writing process in and of itself does not foster the environmental focus nor does multi-age or looping structures. So while activities in writing could center on a theme of the environment, it would have to be planned that way. However planning for this is complicated by the fact that the writing process Emerson uses has each student writing about his/her own topic of interest. So when talking about Emerson's goal, Sally says, “Well, it sounds glib, but I think the focus is on teaching the children. Or helping the children learn, however you want to say that. I hope it is. But I'm not sure that there is a real strong commonality to what that means or looks like” (Group Interview, 20 December, 2005, 320-322). These different and potentially disconnected elements occurring simultaneously may lead to a lack of common purpose or shared vision, as well

coherence.

While the environmental theme offers the possibility of a focal point around which to develop a shared vision and coalesce effort it is not clear that such is happening. As Tisha, a veteran teacher, notes, “I don’t think we have ever had that clear focus since I’ve been here. My first year I remember feeling like I was floating because I couldn’t get my hands around what it was that we were supposed to be doing at this school. I don’t think I ever really have because it is not clear” (Group Interview, 20 December 2005, 365-367). With multiple activities and directions keeping an eye on the goal or big picture remains elusive for Emerson staff.

As with Thoreau, a summary table of the development of Emerson as a learning community is shown in Table 15. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of cells in each section is a characterization of the level of development for that element, with the key at the top of the table.

Table 15

Summary of Learning Community Characteristics for Emerson in Follow-up Data

Emerson	▶▶▶▶ = is part of school culture ▶▶▶ = is practiced regularly		▶▶ = is practiced occasionally ▶ = is valued but not necessarily practiced	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶▶▶	▶▶▶▶▶	▶▶	▶▶▶▶	▶▶▶▶
strong commitment to professional development by teachers, admin.	looping; writing as process; focus on K-8 curriculum development continued	some opportunities, such as study groups, team meetings, not all effectively implemented; TL is valued	in written docs; components of vision not held by all, but all working on some aspect of vision	underlies design of interacting pieces; key personnel hold ST, but not apparent staff-wide
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶▶	▶▶	▶▶▶▶	▶▶	▶▶
CI not practiced; but collaboration in team meetings for sharing & learning; collaboration with university	various prof dev activities require questioning; inquiry is core of teacher prep program	regular collection of writing; analysis deepening; survey of needs for prof dev; data used for determining goals	use of reflective journals by some; reflect on practice with pre-service remains	sharing of practice with preservice teachers, but not larger community
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶▶▶▶	▶▶▶▶▶	▶▶	▶▶▶▶	▶▶▶▶
in-school study groups; team meetings; some prof dev has in-school time; gain meeting time when student teachers teaching	participates regularly in CIG; seeks additional resources	faculty commitment to goals and each other present; willingness to challenge not evident	university relationship; writing project facilitator and writing network	spiraled curriculum on environment; writing continuum and prof dev to meet school goals

The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix I.

Changes in Practice Since the Reform Initiative Ended (see Table 16 for chart version)

Five Disciplines: *Personal mastery* remains strong at Emerson. Both individuals and the school as a whole practice the discipline and support the practice through in-school professional development and networking opportunities. While *collaborative inquiry* is not practiced, there have been attempts to bring collaborative learning situations to more staff through study groups and team meetings focused on student work study. Emerson employs the discipline of *mental models* by engaging *enablers*, particularly the pre-service teachers, and through the collaborative work of team meetings. A *shared vision* shows up regularly in documents, but the evidence that it is widely held is not strong. *Systems thought* still underlies the development of K-8 views of curriculum and writing and is apparent with those interviewed. It is not clear that other staff think in such terms.

Collaborative Inquiry: There are regular attempts at *collaboration*, though lack of follow-through lessens their impact at times. There appears to be no change in *inquiry stance*. Student *data* is regularly used to make instructional and school-wide practice decisions. Team meetings considered samples of student work to understand student learning, while teachers compare student writing to Emerson's writing continuum to determine growth. Standardized test scores are examined to consider school-wide impact on learning. Connection with the university and a principal with a Ed.D. seem to help support this use of data. There is less formal reflection than at the end of the reform initiative, as through the use of journals, though all the teachers interviewed discussed reflecting as a part of their regular routine. Public sharing at Emerson continues through

its partnership with the School of Education, though there is no sharing with the professional community.

Impact of environmental factors on development of a learning community

Emerson has increased its *time* for teachers to meet as a team and for the study groups. This is due to the fact that support from the administration remains strong. There is no growth in *relational integrity*, the loss of key staff may play a contributing factor in this not developing further. The use of *enablers* remains strong; it may even be accepted as a regular part of the life of the school. *Coherence* also remains strong, or at least an attempt to be coherent, for while each of the elements for improvement move the school to some aspect of its goals, how the elements work together is not clear.

Table 16

Changes in Emerson Pre-K - 8 School Since the Reform Initiative Ended

<i>Personal Mastery</i>	remains strong	whole school professional development
<i>Team Learning</i>	a lessening, but making attempts to bring back	study groups; writing workshop development
<i>Mental model</i>	regular practice	student teachers & university personnel challenge
<i>Shared vision</i>	little change	not apparent beyond written documents
<i>Systems Thought</i>	remains strong, especially among CIG	coherence of efforts and resources
<i>Collaboration</i>	slight decrease	less opportunities, but working towards increasing
<i>Inquiry Stance</i>	remains same	
<i>Use of data</i>	remains strong	regular use
<i>Reflection</i>	maintained informal; formal somewhat lessened	few using reflective journals regularly
<i>Publicly sharing</i>	lessened	no public sharing outside of school
<i>Collaborative Structures</i>	increase	study groups; in-school professional development
<i>Administrative Support</i>	remains strong	principal supportive; provides resources
<i>Relational Integrity</i>	lessening	loss of key staff
<i>Enablers</i>	remains strong	use of pre-service teachers and university personnel
<i>Coherence</i>	maintains status	

Pierce's Journey

Leadership and Change

Pierce, as the largest of the schools in this study, always faced a greater task of convincing more people that change was possible. At the end of the reform a new principal was hired, then a year later another. This new principal is interested in change, but as with the case at Thoreau, does not have the same conceptions or experiences that the CIG members have. Additionally, the CIG members describe him as having a different leadership style. The broader-based consensus decision-making process that they had experienced during the initiative, is less existent under the new principal. The CIG members who are used to having a role in school-wide decisions, no longer feel they are part of such a process.

CIG members speak of this change as also being a change in culture and, perhaps more importantly, as a loss of shared vision. "I don't think we have a shared vision now. I think it's 'Here's what I want to do and this is the way we are going to do it.'" (Peter, Group Interview, 12 January 2006, 153-154). Though there is a written mission statement and vision in both the school improvement plan and North Central Accreditation document, the interviewees suggest that it is not widely held, and that the lack of collaboration prevents the adoption of a shared vision (Group Interview, 12 January 2006, 149-154).

Under the direction of the new principal, Pierce decided to develop career academies. These academies were designed to be a collaboration of courses and faculties focused on career areas described by the title of the academy, such as "Math & Science,"

or “Arts & Communication.” There was a multi-year study on how to implement such a plan. As this was a whole school endeavor and implementation of the academies had the potential to involve large numbers of the faculty, this initiative represents a type of systems thinking. Additionally, the academy sequence of courses provided some coherence for students. The academies were optional for students and one of the main reasons for implementing them was to attract students from other districts thereby increasing student numbers and thus state funding for the school.

Due to the fact that the academies were going to be optional, members of the CIG were vocal during the planning stages about their concern that all students should be served and not just some students given opportunities. In the end the academies were optional, used by only a limited student population, though anyone can choose to be in one of the academies. At this time, two years into implementation of the academies, they remain mostly a sequence of courses that students take with little coordination among departments or teachers. Staff in some academies have begun to have conversations about coordination of subject matter and course, but it is only just beginning. Pierce teachers also tried school-wide collaborative learning groups, but a lack of the technical ability on the part of the facilitator to facilitate and that of staff members to effectively participate, prevented them from being very successful (Group Interview, 12 January 2006,138-142).

All the faculty were involved in committees to design the academies. Some of those interviewed felt that their work on those committees was ignored, yet others were clear that their work had materialized in the academies (Group Interview, 12 January 2006, 663-684). There was no indication that the perspectives of others had been

collected during this process. Whether there was follow through on the work or not, there was clearly an attempt at collaboration, though an inquiry stance was not present in the description of these committees. Nor was there team learning going on, as these collaborative efforts were basically for designing and not learning. The use of *data* that might have informed or pressed team learning was characterized as being nominal. Rita provides this perspective,

I don't see us using data-driven decision-making. We look at data and we learn from data. ... So in some regards, yes, but I feel what's missing is that cohesiveness, the common direction, the continuous examination and decision-making based on a broad scope. There's a little bit of it and it's better than it was. There was a year where we had a data committee and it met about once a month but I don't remember anything happening with that, with decisions being made. We just looked at it. That's as far as it went (12 January 2006, 467-474).

Rita further explains that while data on poverty and numbers of English as New Language learners was used to determine that there was a need for professional development, the data were not used to craft a response to those areas or gauge effectiveness of efforts (Group Interview, 12 January 2006, 506-512).

A number of times during the interview the teachers made a point about the importance of leadership. For example, four or five people verbalized agreement with Marie's comment, "I think that for these things to be effective you need really effective leadership that has bought into all of these things (Group Interview, 12 January 2006, 120-122). Sue was discussing the "huge improvement" in collaboration between math and science due to a change in leadership of each department (638-653) when Cathy emphasized, "...because of a change of leadership" (Group Interview, 12 January 2006,

654). However Cathy also brought up the case of another IESN high school (not part of this study) where there had been no change in leadership and despite the strong support of the principal for the initiative efforts the change efforts there had come to a “screching halt” due to factors outside of that administrator’s control (Group Interview, 12 January 2006, 326-330). So while they realize that building leadership plays a vital role in the change process, they know that such is not the only vital element.

Running with Shackles

Sue: There are too many things required of us right now. I think that’s really unfortunate. Therefore it makes it unlikely that groups of teachers are going to be willing to take the ball and run with it, because you can’t really run.

Patty: Well, you have shackles on.

Sue: Yes. You can’t run (Group Interview, 12 January 2006, 782-788).

Much of the discussion during the interview with the Pierce CIG members revolved around the idea of being shackled or limited. One area in which this is felt is in the change in leadership style with the new principal. The former more distributed leadership they had been developing disappeared to be replaced by a more traditional centralization of decision-making with the principal. They describe their Instructional Leadership Team meetings as one-way conversations where the principal shares ideas and tries to gain consensus on them (Group Interview, 12 January 2006, 704-721). Those interviewees who hold leadership roles within their department and make up the Instructional Leadership Team see these meetings as a missed opportunity for the discussion and learning that used to occur in the CIG.

A second area that they perceive as limiting are the mandates (such as NCLB and state testing requirements) imposed from outside the building that they feel supersede and are incompatible with their reform efforts so that “our focus has almost had to shift out of necessity in other directions” (Group Interview, 12 January 2006, 55-85). Thus, within the current structure of their school and its response to those mandates they do not see CIG as fitting in (Group Interview, 12 January 2006, 170-179). As Marie notes,

I think about the way things were because I wonder “why?” This is the time when it seems to me that all the work and effort to make this a cohesive effort, to think of the future, to do all the things that we did, this would be the time that you draw from that and say, “Now is when we can really use those things that we came up with.” And we have no vehicle to do that. That’s what I think is upsetting to me” (Group Interview, 12 January 2006, 402-407).

Though the very skills the CIG members learned around collaborative inquiry, decision making based on data, and systems thinking should be applicable in most any situation, their view of the current situation as incompatible with the intent of the reform effort keeps them from collectively making an impact. Their mental model of what they can do seems limited. It seems that they simultaneously hold two mental models, one of school as it is and one of school as they would like it to be, as developed during the reform initiative. Missing is the sense that the skills learned in the initiative can be applied to moving from one to another.

For example, the stated aim of NCLB is that all students can learn, a compatible goal with CES and the work of the initiative. The use of standardized testing as a tool of accountability, however, is not compatible with the accountability fostered by the reform

where students display their knowledge in potentially unique and meaningful ways. The CIG members do not acknowledge any overlap. Nor are they using an inquiry to process the impact of NCLB. The comments of Marie at least suggest initiative activities or skills could be used, though they see no avenue for doing so in the current structure.

It could also be that the distraction of addressing NCLB and the other external mandates takes up their time and energy. So when Sue says, “We aren’t given the time to be reflective. We aren’t given the time to be thoughtful” (Group Interview, 12 January 2006, 358-359), it tells a story of teachers who do not have the time to make the connection or practice the discipline of mental models, to realize they are holding two models which may not be compatible with each other.

Another potential limitation is CIG members’ acceptance of change. They note that times have changed (Group Interview, 12 January 2006, 345-362) and with that change have come new ideas. It appears that the initiative ideas are no longer viable in their view. At the same time they acknowledge that new ideas are rarely seen all the way through. They state that teachers are frustrated by this and people give up on putting effort into improvements (Group Interview, 12 January 2006, 408-418). This frustration makes it harder for teachers to accept and work toward changes.

Though they did not acknowledge this last form of shackling, it may be that they are shackled by their own perception. It was surprising to me to find that, though many of the CIG members continue to hold positions of leadership within the school (four are department chairs and one is an assistant principal), they do not push the reform ideals they claim to believe in with the current principal. Rather they seem to accept his lead,

and his right, to be the sole decision-maker without much argument, even though they clearly disagreed in their interview comments with his leadership around school improvement.

Due to the diligence of my contact person at Pierce the interview questions were given to everyone ahead of time and most came to the interview with notes and answers written for the conversation. As a result, during the interview, there was a close adherence to responding to the interview questions. While there was a definite concern on their part of being able to provide information helpful to this study (they gave that reason as part of their initial reluctance to participate and a concern was voiced at the beginning of the interview to make sure that we were providing information that I could use), it seems possible that there was a concern about saying anything too negative or perhaps a lack of willingness to discuss that changes they believed in were not happening. Though as the interview progressed they were less hesitant to make comments that were critical. All through the interview, their tone was respectful to each other and they used active listening and conversational skills, being careful to take turns in speaking and offering up the floor to each other when more than one spoke at the same time. These skills which they developed and practiced during the initiative are still present. It should be noted that the same respectful tone was noted during observations of staff meetings (Meeting Observations, 9 & 14 March, 2006).

A summary table of the development of Pierce as a learning community is displayed in Table 17. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of

cells in each section is a characterization of the level of development for that element, with the key at the top of the table. The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix J.

Table 17

Summary of Learning Community Characteristics for Pierce in Follow-up Data

Pierce	▶▶▶▶ = is part of school culture ▶▶▶ = is practiced regularly		▶▶ = is practiced occasionally ▶ = is valued but not necessarily practiced	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶	▶	▶▶	▶	▶▶▶
individuals study own practice, little sharing with peers	MM of student as focus of learning and subject as focus of teaching sharing equal attention	less effort to do whole staff learning than during reform; one attempt at study groups	identified in written documents	balance between classroom & whole school on individual basis; input from students & parents remains unchanged
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶	▶▶	▶▶▶	▶▶▶	
CI not practiced; departments more collaborative; less collaboration now on school decisions	teachers asking questions of own practice; no sense of school-wide stance	data collected; strong knowledge of data analysis; no movement since initiative	reflect on practice; some reflection on whole school; thoughts reflective in interviews	none noted; though in general greater public scrutiny of test scores
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶	▶	▶		▶▶
occasional in-school time; instructional leadership team not used for collaboration	no support for distrib. leadership or CI; nominal for teachers actively pursuing change	considerate; willing to challenge ideas, but not practice; not practiced regularly	none noted	SIP that links actions and mission, but broad coherence not tied to goals

Changes in Practice Since the Reform Initiative Ended (see Table 18 for chart version)

Five Disciplines: *Personal mastery* continues on an individual basis. There is no indication that collaboration with other teachers impacts that development, with the exception of Sue who notes being reflective on her own practice as she assists new teachers. This probably coincides with the fewer opportunities for team learning and that the attempts at team learning, such as study groups, were limited in their success. Their use of *mental models* is not evident. Similarly *shared vision* shows no change, though some of the teachers in the interview, most notably Peter, feel that there is no vision now, while there had been one previously during the implementation of the project. What most likely existed was a vision around some key CES principles such as “student as worker,” “students exhibiting knowledge,” and “teacher as coach/facilitator,” all of which still appear to be held by the individuals in the group. *Systems thinking* remains unchanged, held more by individuals whose comments consider whole school and classroom practices concerns, as well as multiple perspectives. It is not as apparent on a school-wide basis either in the interview comments or document review, though one of the meetings observed did include community and parent participation in committee membership.

Collaborative Inquiry: Collaborative inquiry is no longer practiced.

Collaboration appears to not have changed much, though there are more faculty-wide attempts at collaborating recently, particularly with developing the academies. Some departments are now collaborating more, mostly in conjunction with implementation of coursework for academies. Teachers claim to still be *inquirers* in their classroom, questioning and reflecting on their practice, but there was no evidence that the school was

asking questions about its performance overall, though such was implied with information gathered in the state-required school improvement plan. Simultaneously there is no change in the data collected or its use. As with inquiry, reflection is maintained individually, though there is no evidence of the use of tools, such as journals. Responses in the interview do suggest that reflection on practice continues. *Sharing publicly* is not occurring and the school is not seeking out opportunities to do so.

Impact of Environmental Factors on Development of a Learning Community

There has been a small increase in *collaborative structures* across the school with study groups and the framework of the academies, though it has resulted in only minimal collaboration so far according to the interviewees. This indicates that the *administration is supportive* of change, though not necessarily the changes fostered by the initiative, the loss of a distributed decision-making process being the most obvious case. As noted earlier, the CIG members were very respectful of one another and appear committed to student learning. That commitment, in conjunction with their shared experience, seems to bind them to each other, though no evidence of them working to maintain the relationships they built during the change effort appeared in the interview. The use of *enablers* is not occurring. There is very little apparent *coherence* among change efforts, current programs, and data analysis to support the mission of the school and thus it is coded as it was previously. The size of the school and number of traditional program offerings are most likely working against such a coherence, but if the shared vision is not present, there is nothing to cohere to.

Table 18

Changes in Pierce High School Since the Reform Initiative Ended

<i>Personal Mastery</i>	continues at same level	some individual work
<i>Team Learning</i>	decreased	collaborative inquiry not present and no replacement
<i>Mental model</i>	decrease	no apparent practice
<i>Shared vision</i>	remained the same; low level	in written documents only
<i>Systems Thought</i>	maintains regular use among CIG, some school-wide	interviewees discussing multiple perspectives
<i>Collaboration</i>	decrease; some current attempts to revive	study groups and career academy discussions
<i>Inquiry Stance</i>	decrease school-wide; individuals maintain informally	analysis of data less
<i>Use of data</i>	maintained; regular use	
<i>Reflecting</i>	maintained	informal use by all
<i>Publicly sharing</i>	decrease	none noted
<i>Collaborative Structures</i>	remained low	
<i>Administrative Support</i>	remained low	
<i>Relational Integrity</i>	decrease	no formal maintenance without collab. structures
<i>Enablers</i>	decrease	none noted
<i>Coherence</i>	slight increase	broad connection of all to school goals

Dewey's Journey

Turmoil

In the year following the end of the initiative Dewey staff learned that the building which housed its grades 1 - 8 multi-age school would be closed and they would be moved to a wing in a district middle school. They interpreted this as a lack of support from the district-level administration, even though their building was not the only one to be closed. With some of the parents of Dewey students the staff began to pursue charter school status which status had recently been approved by the state legislature. This caused some contention with the board of education and the community at large, and ultimately proved unsuccessful. Dewey remained a school of choice for any student within the district, housed in one part of the middle school.

Simultaneous with the move to the new building one of the original Dewey teachers retired, another moved to a different school district, and a third developed medical problems that resulted in her being absent much of the year. In addition to feeling that they were under attack from the district administration, the remaining staff and parents were also working to support the new teachers in learning about, and participating in, the Dewey community. Noting that there was just too much happening at once to effectively manage, George said, "it was kind of going through the motions" (Group Interview, 9 November 2005, 170-171). In some sense they were just surviving.

Just before the data collection began for this study, the school district hired a new superintendent. The superintendent moved an alternative high school program and Dewey to a previously closed middle school. The superintendent also indicated support for

Dewey's design and approach to student learning by allowing Dewey to expand its size by one class and one teacher for the first time since its inception. Dewey staff took this as a new lease on life, which increased their interest and motivation to continue the efforts they began during the reform. "There is almost a drive; there is a purpose. We are currently coming out of a slump where we all had great ideas and didn't do much with them. I think we are starting to get to the point where we have great ideas and we are starting to develop those and work with them" (Joan, 7 November 2006, 24-27).

A Learning Organization in Conflict

In responding to the question of whether they are a learning organization, George described Dewey as a "learning organization in conflict" (7 November 2005). George suggested "in conflict" because the three new teachers were all struggling to develop their first year teaching portfolios.⁵ While George could see the portfolio as a valuable learning tool since it involves data collection and reflection on student learning and classroom practice, the teachers who were completing it as a requirement did not have that view. Hence there was a conflict between what should be a career-long learning stance and the realities of being a new teacher. It was also a conflict for George who knew the importance of the work and wanted to foster it as a useful tool, but also realized that such fostering might not be perceived by the new teachers as helpful.

This conception of "in conflict" also lends itself to Dewey as a whole. Dewey staff were conflicted about their lack of collaboration due to lack of time. The move to a new building had meant a change in schedule and their one-hour daily collaboration time

was lost. Though in their current building they have been able to schedule a block of time on Monday afternoons to meet weekly, they still do not have common preparation time for the teachers on each team to meet together (Loretta, 7 November 2005). They therefore have to catch each other outside of school hours or during their 30-minute lunch break.

Dewey staff also struggled with mandates that conflicted with their goals or took time away from their focus; these included attending to district-mandated literacy programs, state reporting requirements, and the effects of NCLB on their portfolio approach to assessing students. All prevented Dewey teachers from attending to activities they viewed as important to learning at Dewey. Rather than for curriculum and community-building work that supports Dewey's mission, their extra time and energy is spent dealing with these separate interventions. The more mechanistic worldview that supports these mandates conflicts with the systems thought underlying Dewey's community; challenging Dewey's implementation of a coherent program.

Dewey, as noted earlier, has a strong shared vision. Yet, here also, they are conflicted. During one of the meetings I observed they were continuing a conversation from the week before about collectively developing a shared vision. Dewey is struggling with how to include the new teachers (five of the ten teachers have begun in the last three years) in developing the Dewey community and thus developing that common vision, yet at the same time remain true to its roots. This observation was later confirmed by George in a group interview.

We found ourselves saying to new teachers, "We're kind of starting over."

We're inventing together what Dewey is." But then in our latest meeting we are saying "Aren't there some bottom lines?" "Aren't we multi-age?" "Don't we try to team together to know kids well?" The Ten Common Principles. So we just start saying, "These are some things" and why we chose them and what we are doing. New people have to be brought along to try to have an understanding of the Ten Common Principles, to get to know kids well. So on one hand you are telling new people these are some bottom line things that we still really are, and on the other end you are trying to tell them, "Help invent and make it new too. Make it your own" (9 November 2005).

Though Dewey lost its daily common planning time before school, it has gained a couple of hours once a week with the most recent move in the 2005-2006 school year. This move has revitalized the staff. This common time is used mostly for working on improving the educational experience of the students. There is distinctly collaboration during these meetings, but in the spirit of challenge, and true community (Achinstein, 2002) there has also been conflict. In describing an incident referenced during an observation, George said,

It's all relationship kind of stuff. And we brought up a number of issues about working together, what our meetings should look like; how we should develop an agenda and try to stick to it. Kind of mundane group norms, how to not have side conversations, how to be to the meeting on time is important. Those kinds of things. Then what it evolved into, we knew it was going to go there all along, was a much deeper look at how do we talk about each other. We talked about even making a covenant, using that word. If I am going to say something about somebody else, I'm only going to say things I have already [said], or plan to say, to that other person in a constructive way (Group interview, 9 November 2005, 74-81).

The presence of conflict here indicates that collaboration has moved beyond a contrived collaboration (Hargreaves, 1992) and towards real community. Dewey has reached a point of faculty commitment to their goals that shows a strength of relational integrity. In

the end George's assessment of Dewey as a learning community seems apt, "We have a lot of the attributes, just not the ownership part of knowing I am in a learning organization and I want to be a part of that" (Group interview, 9 November 2005).

Holding onto Practices

Dewey has a strong tradition of commitment to a democratic community. At town hall meetings, parents, students, and teachers discuss the design and development of Dewey as a school including school-wide events, ways to strengthen community, and assessment of survey data. This appreciation for engaging multiple perspectives provides an indication of systems thinking. A second indication of systems thought is the discussion teachers have to coordinate efforts among grade levels so that there is a coherence to the educational experience of the child. This attention to the development of the child over time, evident in their answers to interview questions and in their school portfolio, is an indication of the long term view inherent in systems thinking. The staff speak of successfully educating a student to their conception of a Dewey graduate, not just to the end of the school year. While these indicate glimpses of system thinking, there is no articulation of how the different components of the student's experiences work together toward the final goal, so it could be best described as having moved beyond early stages of systems thinking, but still developing towards a full practice of the discipline.

There is evidence of the practice of the other disciplines, as well. For example, personal mastery is evident in Dewey teachers as they speak about improving instructional practice. Interestingly, three different teachers spoke separately of their

attempts to improve as “experimentation” with ideas and instruction. That such a process has become a part of the culture of Dewey, is evidenced by Loretta’s comments:

Because I think in a traditional school setting, I listen to my sister complain [about this] every day⁶, you are expected to go along with whatever is going on. Everybody is supposed to be doing the same thing and doing it in the same way and not doing that kind of sets you away from everybody, so the pressure is there to not do anything at all innovative, to just go with the flow. And it’s really more like the pressure here is the opposite (7 November 2005).

Coupled with increasing personal mastery is a constant focus on student learning, so that the concern for becoming a better teacher is defined by increased student learning.

While, at one time, Dewey had begun a process of peer observation and coaching to combine personal mastery with deprivatizing practice, it is not currently practiced. Changes in staff required taking time to bring new staff on board and peer observations had to wait. Dewey teachers publicly articulate their personal teaching philosophies by posting them in their room and through discussion with one another. This action to deprivatize practice has been considered since the implementation of the grant; its implementation now is evidence of Dewey’s return to reform activities and their renewed energy. This excitement is also found in Loretta when she discusses the possibility of Dewey being a lab school (fostered by the new superintendent’s support) as a way to exhibit themselves as a learning community to others in the district. The importance of publicly exhibiting (the students exhibit their portfolio before they graduate, for example) is present, though it has not manifested as teachers exhibiting their craft to others outside the Dewey community.

As noted earlier, Dewey staff do meet regularly on Mondays for two hours as a whole faculty. While the focus of this time is on the educational program they are providing students, team learning through discussion of commonly read articles is a component of these meetings. They also invite parents to observe these meetings, an additional opportunity to publicly share their practice.

Probably the best developed of the five disciplines at Dewey is that of shared vision. With the assistance of parents Dewey has held tightly onto its vision of a democratic community, the conception of “student as worker,” restitution as personal responsibility to the community, and the development of the whole child. They use these terms in conversation, in written documents, and they are echoed by parents and students.

Dewey, like the other schools has increased its use of data, though as Loretta says, “It wasn’t a choice” (Group interview, 9 November 2005). The increased focus on student data as measured by test scores has forced schools into working more with data. The challenge for Dewey is to be able to use that data in conjunction with the data they are already collecting. Dewey uses a narrative report card identifying student progress against benchmarks and has continued its development of student portfolios. As this data is more challenging to collect, collate and aggregate, Dewey already spends much time on data collection and analysis. What they are forced to look at however is not this data, that is most important to them, but rather the test score data mandated by the state. Each of the Dewey teachers speaks of using narrative and portfolio data to inform instruction. At one time Dewey staff began collecting student attainment of benchmarks (as described in the report cards) as part of a formal whole school study process, but are not doing so at

present. As the context for Dewey changes with new staff and additional mandates, they endeavor to remain true to those practices which support their mission.

The Essence of Dewey is Permission to Ask

Dewey, like the other four schools, does not practice collaborative inquiry as the formal process in which they engaged during the change effort. The major impediment to its practice, as reported by all four schools, deals with time. For Dewey, the lack of time to collaborate became a challenge with its change in schedule with the first move to a new building. This first move came amid some concern over Dewey being closed, which led to a great expenditure of energy and time to ensure Dewey's survival. This investment in survival prevented the use of that time and energy for the taxing process of collaborative inquiry.

Some of the individual teachers speak about keeping inquiry alive in their classes. All of the experienced teachers who speak about experimenting and reflecting on student learning or reaction as informing their practice hold an inquiry stance. That this stance is a part of the entire school culture is best summed up by Dan when he speaks about collaborating with other teachers, "the essence of Dewey gives me permission to ask" (7 November 2005, 23). For him, the fact that teachers would collaborate in the teaching of art, not only working with him to develop a project that supports the curriculum in their classroom, but also supporting in their classrooms what he is doing in art class, exemplifies collaboration and a willingness to make the student experience more coherent.

This freedom to ask acts as a support, as noted in the previous paragraph, and also as a challenge. While there was no concrete evidence that teachers at Dewey still bring student work or teacher artifacts to the group for analysis and feedback in a formal way, there is a culture of informal challenge. Dan describes it this way, “George has really been instrumental. He says I push him, but he seems like he pushes me” (7 November 2005). This is echoed by Joan, a teacher who has been at the school just three years:

I feel that with this particular group of teachers, if you have a frustration with somebody we are all open to criticizing each other, critiquing I should say, critiquing each other rather than criticizing. Giving advice and helping out where it is needed (7 November 2005).

That Dewey has been able to bring new teachers into that culture of supporting and challenging lends evidence to the presence of a strong relational integrity in the culture of the school. This willingness to ask each other about practice, or potential changes to practice, exemplifies Dewey’s commitment to student learning.

A summary table of the development of Dewey as a learning community is shown in Table 19. Three sections, each demarcated by shading of the title row, correspond to the three areas of the framework developed in Chapter II. The first row of cells in each section is a characterization of the level of development for that element, with the key at the top of the table. The second row of cells, below the first, lists key reasons from the evidence for the characterization in the first row. Additionally, the coding chart of the evidence for each of the elements can be found in Appendix K.

Table 19

Summary of Learning Community Characteristics for Dewey in Follow-up Data

Dewey	▶▶▶▶ = is part of school culture ▶▶▶ = is practiced regularly		▶▶ = is practiced occasionally ▶ = is valued but not necessarily practiced	
Personal Mastery	Mental Models	Team Learning	Shared Vision	Systems Thinking
▶▶	▶▶▶▶▶	▶▶	▶▶▶▶▶	▶▶▶▶▶
individuals reflect on practice to make adjustments; shared readings regularly	multi-age; democratic; portfolio / narrative report cards	within culture of collaboration and self-examination; shared readings	strongly held and articulated by all including parents and students	coherence in implementing vision; strong student/parent voice
Collaboration	Inquiry Stance	Using Data	Reflecting	Sharing publicly
▶▶▶	▶▶	▶▶▶▶▶	▶▶▶	▶▶
collaboration increased on student learning teacher inquiries not central to teachers' work	strong regarding effectiveness of community development and student learning	well developed collection and consideration of data from multiple sources	regular reflection on effectiveness as school and on practice	transparency with parents & students; no sharing with other educators or larger community
Collaborative Structures	Administrative Support	Relational Integrity	Enablers	Coherence
▶▶▶	▶▶	▶▶▶▶▶	▶▶	▶▶▶▶▶
regular in-school time though less than during reform; lack of team planning time for all	supportive but not proponent	very respectful; support & challenge is consistent; working on developing relationships with new teachers	parents & students continue to play this role to some degree	strong focus on democratic community; town hall, open staff mtg, restitution, student exhibitions all support

Changes in Practice Since the Reform Initiative Ended (see Table 20 for chart version)

Five Disciplines: There is evidence that the Dewey staff are working together more on *personal mastery* by discussing shared readings and their teaching philosophies.

Though there has been less *team learning* due to reduction in time for team to be together, they have included discussion of common articles in staff time on Mondays. They still hold a *mental model* of what Dewey should look like and it is coupled with the *shared vision* held by students, staff, and parents. Challenge of their mental model is not evident, but continued maintenance of shared vision occurs through its discussion at regular meetings with students and parents. *Systems thought* continues through the staff's consideration of the whole child, the entire learning experience, and the inclusion of all stakeholders.

Collaborative Inquiry: Collaborative inquiry is not practiced, but the staff still collaborates on supporting their conception of Dewey. However collaboration on learning and teaching has been hindered by lack of common time. Dewey's staff continues to collect its wide range of *data*, though its use of surveys has been lessened to make time for mandated data collection. This data continues to answer the inquiry about the success of achieving Dewey's mission and shared vision. Individual inquiries are not as evident, though experienced teachers still speak about adjusting practice based on feedback from student success in learning. Reflection, as a staff, on school-wide data and as individuals upon classroom practice remains a regular element of the routine at Dewey, so its coding in the chart reflects no change. The large number of new teachers has probably kept this element from developing more since the reform ended. Required portfolios for new teachers do have teachers collecting data and reflecting about their practice, though none spoke of their experiences with such. I coded the follow-up and implementation chart data the same as to publicly sharing due to the transparency that Dewey has with its

parents though Dewey does not share publicly with peers at conferences or as a member of an organization that networks teacher or schools.

Impact of Environmental Factors Since the Reform Initiative Ended

Dewey now has less *time* together as a staff and as teaching teams. A key *collaborative structure* that remains present is the cultural component of collaborative decision-making which includes parents and students at Dewey. This culture of collaboration forms a base for their *relational integrity* into which new staff have been brought (based on observations of meetings and personal interactions). Integrity shows an increase because they are now consciously building relationships with new teachers and focusing on professional community. As noted in the discussion above, the district administration actively supports Dewey, as does the new principal, though who, like all the others, is responsible for other programs in addition to Dewey. Dewey staff, while continuing to use parents and students as enablers, has not engaged anyone outside of the school as an enabler, so that element is shown as decreasing. Coherence remains a strong element, diminished somewhat by the attention staff must pay to requirements that do not support their own initiatives and priorities. Dewey also decreased their effort at coherence while housed in the wing of the middle school, when effort in general declined, though attention to it has returned with the new energy they have in the new building.

Table 20

Changes in Dewey 1 - 8 School Since the Reform Initiative Ended

<i>Personal Mastery</i>	slight increase	due to team learning increase
<i>Team Learning</i>	decrease	less time for collaboration
<i>Mental model</i>	maintained model but no evidence of practice	some defense of model may imitate discipline's practice
<i>Shared vision</i>	maintained strength	articulated by multiple members of community
<i>Systems Thought</i>	maintained strength	focus on whole school experience for child
<i>Collaboration</i>	lessened	due to less time for such
<i>Inquiry Stance</i>	individual not apparent; group maintained	asking "How are we doing?"
<i>Use of data</i>	maintained strength and breadth	
<i>Reflection</i>	individual hard to say; group continued	common review of data and its implications
<i>Publicly sharing</i>	decrease	not sharing with peers
<i>Collaborative Structures</i>	less structures	planning time lost
<i>Administrative Support</i>	slight increase at district level	supportive superintendent; principal still oversees multiple structures
<i>Relational Integrity</i>	increased	building with new staff
<i>Enablers</i>	decrease; parents still present	no outside enablers;
<i>Coherence</i>	maintained strength	still focused on whole school experience

As was done in Chapter IV, a side-by-side comparison chart of the four schools using the learning community framework is provided in Table 17.

Table 21

Side-by-side School Comparison of Learning Community Development

Five Disciplines	Dewey	Emerson	Pierce	Thoreau
<i>Personal Mastery</i>	➤	➤➤➤	➤➤	➤➤➤
	individuals reflect on practice to make adjustments to practice	strong commitment to improving writing & environment-related instruction	individuals study own practice, little sharing with other CIG members	strong focus on student learning and developing practice through reflection; use of inputs from others less than during reform
<i>Mental Models</i>	➤➤➤➤	➤➤➤➤	➤➤	➤➤
	multi-age; democratic; portfolio / narrative report cards	multi-age; writing as process; K-8 view of student development	student and subject share focus of teacher; Block 8 schedule	student learning as focus; student as worker mindset still strong in all CIG teachers
<i>Team Learning</i>	➤➤➤	➤➤	➤➤➤	➤➤➤
	learning occurs within culture of collaboration and self-examination; peer coaching	constant among members inside and outside of CIG	efforts to bring learning to whole staff	many activities (book club, Freshman Literacy workshops, 4-D workshops), but not all effective
<i>Shared Vision</i>	➤➤➤➤	➤➤➤	➤	➤
	strongly held and articulated by all including parents and students	in written docs; multiple aspects designed around vision	identified in written documents	identified in written documents; not seen as present in school by CIG teachers
<i>Systems Thinking</i>	➤➤➤➤	➤➤➤➤	➤➤➤	➤➤➤
	coherence in implementing vision; strong student / parent voice	coherent plan for curriculum; value of parent input recognized	balance between classroom & whole school focus; some input from students & parents	Not evident school-wide, CIG teachers work in multiple perspectives, a process orientation, and a coherence for focus

Collaborative Inquiry	Dewey	Emerson	Pierce	Thoreau
Collaboration	▶▶▶▶▶	▶▶▶	▶▶	▶▶▶▶▶
	strong collaboration in decision-making and instruction in multi-age cohorts	dedicated; teacher inquiries support CIG learning and inquiry focus	strong dedication to meeting but teacher inquiries not central to meetings	strong dedication to collaboration in CIG and developing among faculty
Inquiry Stance / Asking Questions	▶▶▶	▶▶	▶▶▶	▶▶▶▶▶
	strong regarding effectiveness of community development and student learning; teacher inquiries not central	various prof dev activities require asking questions; inquiry is core of teacher prep program	teachers asking questions of own practice; CIG asking questions of effectiveness of school efforts, but not practice	questions organize all of their work; inquiries into practice
Using Data for decision-making	▶▶▶▶▶	▶▶▶	▶▶▶	▶▶▶
	well developed collection and consideration of data	regular collection of writing; analysis skill still developing	large amounts of data collected; strong knowledge of data analysis; not always used	novice level but systematically collects for personal practice
Reflecting	▶▶▶	▶▶▶	▶▶▶	▶▶▶▶▶
	regular reflection on effectiveness as school and on practice; "improved practice journals"	use of reflective journals; reflect on practice with pre-service teachers	use of reflective journals; thoughts reflective in interviews	highly reflective on own practice and perspective of others
Sharing / Public Exhibition	▶▶	▶▶▶▶▶	▶	▶
	reform effort required; transparency with parents & students	as required by reform effort; host critical friend visits	as required by reform effort; extensive CIG records	as required by reform effort

Envmtl Factors	Dewey	Emerson	Pierce	Thoreau
<i>Collaborative Structures</i>	▶▶▶▶▶	▶▶▶	▶	▶
	regular in-school time for collaborating	occasional in-school time; team meetings; other prof dev has some in-school time	occasional in-school time for meeting	occasional in-school meeting time
<i>Administrative Support /Resources</i>		▶▶▶▶▶	▶	▶▶▶
	supportive but ineffectual due to short tenures	participates regularly in CIG; acquires additional resources	permits participation in reform activities; depends on CIG for ideas	supports reform effort; depends on CIG for leadership; invitational to staff
<i>Relational Integrity</i>	▶▶▶▶	▶▶▶	▶▶▶▶	▶▶▶▶▶
	very respectful; support and challenge is consistent	support present; little evidence of challenge though articulate willing to be challenged	supportive of each other; committed to one other by regularly meeting; willing to challenge ideas, not practice	respectful tone; very willing to challenge practice of each other
<i>Enablers</i>	▶▶▶▶	▶▶▶▶▶	▶	▶
	reform effort enablers plus parents & students	reform effort enablers plus critical friend visits and university	reform effort enablers only	as provided by reform effort only
<i>Coherence</i>	▶▶▶▶▶	▶▶▶▶	▶	▶▶▶▶
	multiple aspects of school support democratic learning community	spiral curriculum on environment; writing continuum and prof dev for whole language goal	school improvement plan as framed by CES principles; data collection not coherent	connection to school goals of multiple change efforts

While all the schools slowed in their development as learning communities, and even lost ground, elements remain. Given the opportunity staff attempt to influence school-wide practices to support reform ideals and continue to support those ideals individually in their classrooms. While each of the schools (or CIGs) are struggling to keep their interest in the reform effort alive within changing contexts, there are a number of parallels to the journeys taken by these four schools. We turn to these parallels in the next chapter.

CHAPTER VI

PARALLEL JOURNEYS

Each of the schools in this study had their own journey, yet there are commonalities among them. The themes associated with each school in the previous chapter are found in the others as well. This section discusses the evidence of the parallels in their journeys. Five parallels, which will each be examined in turn, are:

1. *Shackles & Loss* - which connects the “running with shackles” theme from Pierce with Thoreau’s “feeling of loss”
2. *An Individual Response to Change* - which looks at how this theme from Thoreau was evident in the other schools;
3. *Challenging Nature of Cultural Change* – which considers Emerson’s “getting the vision of the possible,” “losing the big picture,” and Dewey’s “learning organization in conflict”
4. *Cultural Change Taking Hold* – which connects “the essence of Dewey is permission to ask” with Thoreau’s “collaborative inquiry-esque activities” and Emerson’s systemic changes;
5. *Impact of Environmental Factors* – which examines the impact of the environmental factors in all the schools.

As might be expected in a complex system these parallels are interrelated, so though I address each separately there will be overlap from one theme to another.

Parallel 1: Shackles & Loss

Pierce teachers spoke much about the change in leadership as one of the limits to their pursuing the reform objectives school-wide. This change in leadership/direction at the building level led to a devaluation of the collaborative element of work, local inquiry, and empowerment. A similar impact was evident at Thoreau where there was also a change in leadership. Much of the sense of loss that Thoreau teachers felt over not being

able to affect change, provide leadership, or meet together, and which seemed to prevent them from engaging in reform activities, was associated with the actions of an administration that the Thoreau teachers perceived as incompatible with the reform effort. In both settings, the members of the CIG felt they were limited from implementing what they learned during the four-year change effort.

For Dewey teachers the limit was the lack of perceived support on the part of the administration. Dewey has had seven different building principals in the past eight years. The principal dealt mostly with district paperwork concerns, as Dewey was only one of her/his responsibilities. Key roles of leadership such as setting direction, developing curriculum, and monitoring success through data collection were held by the staff and parents, rather than the principal. So Dewey was not dependent on official leadership for the impetus to change. However, when their building was closed they worried that there was no support from the district administration and that Dewey itself would be closed. This perception on the part of the staff not only limited their change efforts similar to the other schools, but even their ingrained efforts to build and strengthen community. As George said, "I just saw us dying" (7 November 2005, 53). This is in stark contrast to the energy they describe they now have, as they now perceive district administration as supportive. Even though, in the case of Dewey, the limitations were based mostly on their perception, it highlights the value administrative support and leadership plays, even in a nominal form. This value of perceived support, or lack thereof, is also evidenced by Thoreau's fear of meeting as a group, where just the perception that they might be reprimanded has prevented them from meeting.

Pierce also discusses the impact of state and federal level mandates as limiting implementation of initiative ideals. These mandates are noted by all the schools and perceived as “so totally contrary” (Jill, 15 August 2005, 61) to the change effort, that most could not make any connections between the two. This is interesting because there were elements of the state change efforts and the federal NCLB legislation that were consistent with IESN’s change effort. Sally offers insight here:

Well personally I think it is a combination of things. One thing is just kind of the whole state of education. {slight laugh} I don’t mean to exaggerate or anything, but there are so many mandate type things coming down from, trickling down, maybe from the feds, maybe from the state, maybe from the [district] administration, and some just with the change in administration ourselves more recently. I’m not saying they are all bad by any means, but I am saying that they are all more little details that have to be added into what you are already thinking about in terms of what makes sense educationally for our kids. And so the minutiae of that ends up consuming {laughs} the time and energy that you have to put towards something (Group Interview, 20 December 2005, 117-125).

A similar challenge is raised by Teresa:

Now it just seems like there are so many unfunded mandates from everywhere. There’s no common anchor. So it’s all fragmented and there’s no common energy because you [Sandy] are off doing documentation and we’re doing writing and reading goals and [another teacher] is doing inclusion (18 January 2006, 575-578).

Jill echoed this concern that Thoreau had no big picture anymore (15 August 2005, 873-876). Fragmentation of efforts, a hallmark of the old scientific thinking, is clearly still in operation at the larger political levels. Fragmentation is a bane to system thinking, so it is understandable that reform without the coherence a big picture provides would be a challenge to those who want to respond to elements or processes of their environment in a

more systemic way.

This fragmentation can cause the disconnection that is prevalent in the words of the Pierce teachers. This is represented in the comments of Sue:

I know for myself personally as there have been more expectations placed on us from the state, the school has had to take a lot of the limited resources that we have, with respect to people who are involved in those kinds of initiatives, and force them to refocus on things that are required of us, instead of things we would necessarily like to be participating in. That also means that for me, personally, because we have been in such a state of transition as a result of that, I've not had the time personally to dedicate to whole school efforts because I'm trying to keep myself afloat in my own classroom. ... I think it's just you have this much energy and you have this many things you need to get accomplished [hands spread out] and you have to prioritize (12 January 2006, 62-69; 76-77).

For others, this disconnection was articulated as department chair meetings that do not operate as a leadership group, a lack of ability to impact school change, and a feeling of not being included in whole school decisions. In the previous chapter, when speaking about all their efforts during the initiative that were not being utilized at this time and were thus not connected, Marie ended her comments with, "Now is when we can really use those things that we came up with. And we have no vehicle to do that. That's what I think is upsetting to me." Similarly, it is this inability to actively make their school a different place that the Thoreau CIG members speak of in terms of loss. Even teachers at Dewey, at one point, felt a disconnection with the very community they created, as noted by George's feeling that they were "dying."

The teachers at Pierce and Thoreau both thoughtfully reflected on the fact that what they might be experiencing is a changing of the guard and that they are no longer part of the group making the change. However both also note that they do not feel invited

whereas they feel they continuously held out invitations to the entire staff to be part of the work that they were doing during the change effort. The sense of loss here is from their perception that the opportunity to be a part of change efforts is missing. For all the CIG members the inability to affect whole school change to improve learning for students, when at one time they felt it was quite possible, is central to their feelings of loss and being shackled. To many it appeared that their only option is to respond individually.

Parallel 2: An Individual Response to Change

The reform initiative attempted to change practice both at the classroom and whole school level. When the initiative ended and the leadership at Thoreau and Pierce moved away from a group-decision making process on issues of whole school change, the teachers were left with only two options to continue the work. First was to foster the collaborative skills learned during the change effort within the traditional group structures that existed (e.g. department meetings, department chair meetings, instructional leadership team meetings). Second was to continue the changes made individually in their classroom.

The first option is not apparent at either school. Department chair meetings were described at both high schools as being one-way communication venues, though the two meetings observed at Pierce did have a more collaborative nature (neither observation was of the department chairs or the instructional leadership team). Queries about whether tools such as protocols were ever used were never directly answered. At Pierce an answer was given that implied that the non-CIG teachers would not be accepting of the tools

(Pierce Group Interview, 12 January 2006, 522-527). At Thoreau the tools are not considered for use with non-CIG work. Perhaps the CIG members are not yet comfortable enough with the group process themselves to teach others about it. Certainly, bringing new structures or tools into traditional group settings such as department chair meetings would require a willingness to challenge the status quo, which challenge they might not be ready to meet. For whatever reason, the knowledge of group process is not consciously employed.

Pierce did discuss using the skills on an individual basis, however, particularly when dealing with challenging people, as Sue describes:

I think that's made us better collaborators. There's a real skill at working through a problem with people with whom you happen to have extremely opposing views, and maybe you just personally don't like very well. I think there's some real value in having to work through some of those things. I think that probably that experience and our ability to share that with other people, even if it's not in a formal way, has really played out in our school (Pierce Group Interview, 12 January 2005, 554-558).

Pierce also indicated that other practices such as student inquiry in the classroom has increased among other teachers through modeling, and particularly, through Marie's work with new teachers and development of their state-required portfolios. So while not affecting change in a formal way, they still see themselves as having some informal impacts.

This then left the option of responding individually in their own classrooms, which is more manageable, as it fits well with the traditional structure of school. While they could continue a reform practice, deepening their understanding about it or learning

additional practices came with two challenges. One challenge is the issue of time and the immediacy of other issues taking precedence, just as with the group elements discussed earlier. While they know that improving personal mastery is important to teaching practice, it does not always occur, as the teachers from Pierce, Thoreau, and Emerson all noted. Another challenge is that described by Jack in chapter five where continuing the change elements in the face of pressure to instruct by more popular methods wears on one's energy and resolve.

There is evidence that new classroom practices instituted during the change effort have been sustained, and all the teachers interviewed indicated such (Pierce Group Interview, 125-126, 530-538; Tom, 23 March 2006, 34-42, 69-81, 149-151; Teresa, 18 January 2006, 52-54, 65-69; Thoreau Group Interview, 15 August 2005, 879-919; Jolene, 30 November 2005, 25-53, 71-77, 101-108; George, 7 November 2005, 4-16, 48-52). The reform principle of "student as worker" and "teacher as coach" was discussed by nearly all of the teachers as a goal they continue to value. Students displaying their knowledge through exhibition, co-writing rubrics with teachers, and providing input into the development of their class are some of the reform elements that are still carried on by different teachers. However, some admit that they are not implementing the practice as much as they had previously. The interview with Tom indicates this best in this exchange:

Jim: Do you do any rubric development with the students, in terms of designing the rubric for a project, ahead of time?

Tom: No, not as much as I used to. In world history I do more projects and because I am not working as hard at that one, I would adjust a rubric that I had in the past. ... I guess I don't [do] as much. I would also say that it really hadn't come to my mind, due to always being busy just getting grading done and stuff. I'm glad you brought that up,

because, you know what, I really miss part of that. I really miss, “So how should I grade you?” aspect, because it gets them to think about it a little bit more (23 March 2006, 184-195).

The fact that the teachers describe these practices as being the same as when the reform initiative ended does not indicate the growth or development one would expect in a learning community.

For these teachers individual development is no longer professionally satisfying because support for that development was connected, during the initiative, to group elements that no longer exist. For example, practice of personal mastery was dependent upon the use of collaborative inquiry and team learning. As Shank (2000) found in her case study of a collaborative inquiry group, change in individual practice occurred because it was supported by the “web of connections” (285) or relationships that the CIG members formed with each other. The support and impetus the group elements bring to personal mastery are important according to the teachers, and support them in facing the challenge described by Jack above. Thoreau teachers at the first interview even discussed the need for some type of impetus with the analogy of paying for membership at a gym as a way to pressure oneself to work out (Group Interview, 15 August 2005, 998-1033). Without this “caffeine boost,” (1030) personal mastery is more of a chore and less of a value-filled task. Something about the group component for these CIG members make the hard work individually easier to do, particularly when they see those efforts as connected to making the whole school a better place (Pierce Group Interview, 145-156).

Rallis and MacMullen (2000) studied 18 schools in six states associated with the Annenberg Challenge, reform effort in urban schools that also had an inquiry component like IESN's. They note two things that seem applicable here. First, a school with teachers doing individual inquiries does not result in an inquiry-minded school, so just individual responses is not enough to sustain a learning community. Rather there must be a shared vision and values to which the inquiries connect, blending both the internal accountability of teacher professionalism and external accountability reporting on student learning examined through the inquiries. So second, in such a situation, the teachers in a school are "being" accountable, as opposed to simply "being held" accountable. The comments of teachers on the importance of the coach for holding them accountable, may indicate that they had not moved to "being" accountable. However without an external accountability measure that blended with their internal accountability, they could not see how to continue the reform work in the face of an environment that seemed inhospitable. Having become accustomed to individual inquiries connected to whole school and collaborative efforts, when group opportunities for team learning, systems thinking, and shared values ended, efforts at inquiries made less sense to teachers in choosing priorities.

Parallel 3: Challenging Nature of Cultural Change

James Evers, one of the contributors to Schools that Learn (Senge, et al, 2000) discusses the need for members of a learning organization to "muddle through" (pp 150-151) the development of a shared vision and shared understandings about learning and about themselves as an organization. This takes time, energy, patience, and a belief that in

the end you will come to a better endpoint. It is this muddling through that is one of the challenges of cultural change and is represented, in part, by Dewey's "learning organization in conflict."

A new influx of teachers to Dewey meant redeveloping a shared vision and culture with a new web of connections. Even though the new staff expected that Dewey would have a culture different than other schools in the district, they still had to confront changing from a culture with which they were familiar and comfortable. A commonly and tightly held goal of better opportunities for student learning will allow people to move through the conflict and uncertainty in the hopes of reaching the goal. Three factors aided Dewey in developing a shared vision and new webs of connection with the new staff. First, its smaller staff gives every person the opportunity to be fully heard during the discussions. Second, the conception of Dewey as an alternative to the other schools in the district meant the new teachers expected there to be difference. Third, Dewey in its practice of democratic structures also has a core of teachers who are used to the time and energy it takes to work through developing a shared vision and the necessary relational integrity to support a web of connections.

The "conflict" in George's comment reflects another challenge to cultural change, the uncertainty people feel over putting the time and energy into becoming a learner in a learning community. The culture of a learning community requires everyone to analyze his/her practice continuously and constantly, inquiring about it, learning more about it. This conflict was particularly pronounced with the new teachers at Dewey who were busy meeting state licensing requirements and simultaneously trying to develop a new teaching

practice. But it was also evident in most of the teachers, at all the schools who, though they know what they should do to improve their practice, find following through difficult, particularly in their current environments. All of these same teachers note that other activities competing for their time is the major reason for the lack of follow-through. Lack of time, an environmental factor, will be discussed further in the fifth parallel.

Accepting the responsibility of becoming an inquirer into one's practice is a component of Rallis and MacMullen's (2000) internal accountability. I would suggest that until recently accountability, whether internal or external, has, at best, only played a minor role in the culture and conversation of teaching. Now that accountability has a greater part, it is an external mandated accountability (e.g. standardized test scores, media school report cards). Building internal accountability then not only takes time, but goes both against the grain (of traditional teacher practice) and of the external accountability of efforts such as NCLB.

I have argued the need for enablers in this paper, yet the connection between enablers and development of teachers "being" accountable will need further examination. All the teachers insisted on the value and importance of the coach to hold them accountable, yet that is an external accountability. How does one use enablers to support internal accountability? For example, it is possible the change effort, in trying to be responsive to the needs of the teachers, let the CIGs depend on the coaches for too long. Or perhaps the time with the coach was appropriate, but the initiative needed more time to wean CIGs away from that particular dependency and into their own internal accountability. Studies on school change coaches describe the challenge of building

capacity among teachers to hold themselves accountable, but with no clear advice on how the role of coach moves teachers towards the independence needed for internal accountability (see Neufeld & Roper, 2003; Tung & Feldman, 2001).

Developing teachers as inquirers, building internal accountability, and teaching conflict management all need to occur simultaneously for a new learning community. This simultaneity is another challenge for schools and two conditions of it are best illustrated by Emerson. The first consideration is the time it takes to reach Cochran-Smith and Lytle's (2001) "knowledge-of-practice" that is necessary to implementing change efforts (Taylor, 2005). Even an experienced teacher like Tisha noted that she is just now, after eight years of practice and professional development, at a point where teaching the writing process has become natural. And this is just one element of Emerson's attempt at whole school reform. An environmental focus, democratic structures, and multi-age/looping all require the depth of knowledge that the writing process required, and most likely the same amount of time and effort to develop well. Pierce teachers discussed this same challenge by noting that there was no time to be reflective (which is necessary to deepen understanding) and improve any new practice before it is abandoned and a new one takes its place (Group Interview, 12 January 2006, 408-430).

The second consideration is the necessity of simultaneously implementing the numerous practices required of a whole school effort. Emerson teachers spoke of losing the big picture as they attempted to do this. As Tisha says, "I think it's such a hodge-podge of things we have out there to do, that it's too much. And so the theory of action is do all of this stuff and go crazy" (Emerson Group Interview, 20 December 2005, 292-

293). Even when the efforts are coherent (e.g. all subjects are taught using a process-oriented approach starting with student interest/questions), there still can be a challenge of focusing on all simultaneously. Dewey had coherence for a number of elements and processes around democracy (town hall meetings, restitution, collaborative decision-making, service-learning), yet not with academic curricula. It has approached this challenge by developing a tight coherence of efforts to build community, but ignoring subject content, expecting to focus on that later.

Each of the challenges in this parallel requires a lengthy time period to overcome, suggesting school change as a slow evolutionary process. Coe (2000) found in her follow-up study to a professional development program that those who had learned new practices and ideas in the program were each implementing them in new settings, impacting others and changing the larger culture slowly over time. In the same way, in each of these four schools, changes are slowly taking place commensurate with learning community.

Parallel 4: Cultural Change Taking Hold

As noted earlier the impact on the classroom practice of individual teachers continues. That these new practices and approaches have become meaningful to the teachers and been maintained signifies a cultural change in their individual classroom environment. Yet, as evidenced by Jack's comment about succumbing to the cultural pressure around him or the multiple comments about other activities interfering with what these teachers wanted to do, these practices do not appear to be developing further. Rather, it appears that they are stagnating. While teachers had begun to work on changing

the culture in their classroom, they now speak about their classrooms as remaining as they were at the end of the initiative. Their comments even indicate that these practices have been compromised over time without the group element necessary to nourish and support the continued development is missing, as noted in Chapter V.

Throughout the data there are instances where individuals have striven to move outside of an individual sphere to maintain a culture of collaboration. For example, Thoreau CIG members continue to maintain their web of connections by meeting informally one-on-one with each other. Additionally by mentoring new teachers, both formally as part of the state-mandated program and informally as peers, they sow seeds of the reform ideas, thus continuing the change effort and increasing their web of connections. This focus on new teachers may be because the experienced people are a greater challenge, or because they have already exhausted the pool of teachers willing to change. Emerson, in filling a majority of open positions with teachers who had their pre-service teaching experience there (Emerson Group Interview, 11 August 2005, 199-201), is similarly strengthening its web of connections and relational integrity. Tisha even suggests that “the staff looks on new people as being able to mentor them also” (11 August 2005, 193). Likewise, at Dewey, partially due to its size, but also to the staff’s belief in collaboration, new teachers are simultaneously mentored into, and partners in, the collaborative conversations.

Evidence of whole school or group cultural change is less apparent but there are three notable instances. First are the “collaborative inquiry-esque” activities at Thoreau. Second is the multi-faceted systemic approach at Emerson. Third is Dewey’s shared

vision of community and collaboration with students, parents, and staff.

At Thoreau evidence of cultural changes taking hold is in the work that Teresa termed “collaborative inquiry-esque.” Particularly the Freshman Literacy project, its design and implementation influenced by the CIG members, contained those characteristics of inquiry stance, collaboration, team learning, mental models, and a focus on student learning promoted by the change effort. The internalization of these elements by the individual CIG members influenced a whole school activity when the opportunity arose to do so. This internalization is also evident in the interaction of CIG members with new teachers, such as Tom being supportive and challenging in conversations with Paul, an indication that activities to support the web of connections is now cultural for these teachers, if not the whole school. Perhaps the fact that the teachers at Thoreau felt such loss when group decision-making structures were abandoned, might also indicate they have developed a culture that is not compatible with the larger culture around them.

The second clear example of whole school reform taking hold culturally is that of Emerson and its attempts to work systemically on change. In trying to improve the overall learning experience of their students Emerson developed multiple facets of their community simultaneously. The staff implemented a curriculum with a focus on the environment as a unifying element to the academic experience of their students. They instituted multi-age and then looping to develop strong relations between teacher and student so that teachers could spend more time and be more effective at developing strengths and weaknesses. In developing the writing rubric continuum, the writing process was approached as developmental, fitting with the developmental approach of

looping/multi-age and the K-8 coherence of the environmentally-focused curriculum.

Interwoven through these efforts, and the impetus for some of them, is the collaborative review of both student achievement and demographic data.

Cultural change, though, may best be exemplified by Dewey which, aided by its size, had nearly all teachers (along with a strong contingent of parents) holding the shared vision of a democratic and safe learning environment. It seems that critical mass plays a role here. Dewey with its smaller staff size could reach a critical mass with fewer people than the larger high schools with a staff of 50 or more. Their shared commitment to the democratic and safe learning environment assisted the development of internal accountability to ensuring that students were learning. Most likely internal accountability was also fostered all along by the fact that Dewey is a school of choice in the district and the teachers feel a need to prove that their approach is successful. That their school-wide culture matched the initiative's goals is most evident. Though some of the environmental factors changed for Dewey after the initiative, causing a period of uncertainty about its future operations, the fact that the teachers have begun to continue the work after that respite is probably the best indicator that the culture has taken root.

Dewey, with an influx of new staff and parents, is now going through the process of re-developing a shared vision, while practicing the five disciplines. For example, Dewey had been intrigued, during the reform effort, by the idea of sharing personal teaching philosophies with each other as another step in strengthening their professional community, but never actually did so. Now with their new enthusiasm they have accomplished that task, part of their work on strengthening their relational integrity and

practice of the mental models discipline.

Most importantly Dewey has maintained its culture of collaboration and inquiry so that teachers feel they have “permission to ask” for help, to experiment, and for critique. Dewey also continues its collaborative review of data on student achievement. This review informs their decisions on topics for town hall meetings, adjustments to the structure of student time, use of student-led conferences, and to a limited extent, curricular activities (such as service learning or eighth grade student exhibitions). As noted earlier, similar to Emerson, Dewey has worked on multiple facets to develop this goal of a safe and democratic learning environment.

One team learning process that might indicate a school-wide cultural change in all schools was the use of study groups. During the past eight years, study groups have been promoted in the professional literature for professional development, so it is difficult to determine whether the use of study groups is a sign of cultural change, an attempt to implement the latest form of staff development, or a combination of both. However, their use at Pierce and Thoreau, according to CIG members, was not always effective due to poor facilitation or poor focus. This may be due to lack of consideration of group theory to make a team learning activity, such as study groups, successful⁷. Emerson and Dewey teachers also spoke to ineffectiveness though the reason given was lack of follow through due to other matters taking precedence. One distinction about Dewey’s attempts is that some of the study group work occurred as part of the town hall meeting and included parents and students in their study group discussions.

In all the schools there were some sustained elements of the reform effort. While

most of those elements were sustained by individuals in relation to their individual practice, there were some changes sustained at the whole school level. Environmental factors played a critical role in sustainability of the changes, particularly at the whole school level. These factors constitute the fifth parallel between all the schools.

Parallel 5: Impact of Environmental Factors

Dewey is unique in that it is a small school and the entire staff operated as a CIG, it therefore appeared to have the best chance of sustaining its change efforts for three reasons. First, there was involvement of the whole staff, second, it was begun as a CES school, and third, faculty had developed an active community with parents and students. During the initiative, unlike the other schools who had to meet after school on teachers' personal time, Dewey staff met twice a week for an hour before the students came to school, as part of their contractual day. However, like the other schools, much of what the IESN initiative expected to continue at Dewey did not. Dewey is buffeted by the same environmental factors as the other schools. These factors were lack of time and resources, change in leadership, change in staff availability, loss of external support, and the impact of NCLB and other mandated programs; all noted by Taylor (2005) in his review of reform sustainability.

As noted throughout the discussion of data the issue of lack of time for collaborative inquiry, or any type of team learning, has played a key role in slowing the evolution of all the but the other schools as learning communities. Lack of time is tightly tied to a lack of financial resources so that teachers can not be paid for doing

collaborative inquiry on their own time, nor for it to be made part of the work day of teachers. Becoming part of the regular routine is necessary for anything to become part of the culture. If collaborative inquiry or the practice of the five disciplines is dependent on the person giving energy and time outside of work, then the concern raised by the schools about “burn-out” or personal life changes (Thoreau Group Interview, 18 January 2006, 209, 228-232; Pierce Group Interview, 12 January 2006, 107-118, 408-416; Emerson Group Interview, 20 December 2005, 68-79) creates a barrier to the on-going learning necessary to a learning community. Lack of resources for presenting at or attending conferences, hiring an external consultant, or making critical friend visits, limits the public accountability that all the schools see as important to deepening their learning.

Among other things, this barrier impacts the relational integrity of the faculty. So, Emerson’s loss of key staff had a negative impact on the critical mass needed to push for change as well as the web of connections that had been built among CIG members. Similarly life changes or “burn-out” pulled people out of the web of connections in the high schools. In Dewey’s case, the personal investment of energy in efforts to survive as a school redirected efforts that would normally tend to the relational integrity. While these events individually would not appear to be a fatal blow to relational integrity, they occurred at a time when other environmental factors were also changing, so the resiliency of the system was weakened. Goldenberg (2004) discusses the impact of key individuals leaving because of the interdependency of environmental factors.

Linked to the lack of resources, it seems plausible that the loss of the grant monies and the supporting network were a fourth factor. Without the resources the grant

provided, the schools could not pay for the services that it desired. Taylor (2005) notes that external support longer than the four years of the initiative is often required for changes to take effect. This loss of external support was exacerbated by the timing of the grant ending just as NCLB became a reality. The major support for a systems approach disappeared at the same time that a mandate moved schools in a different direction.

While there might be a possibility of incorporating legislative mandates, like NCLB, into IESN's more holistic orientation, that orientation had most likely not matured enough to accomplish such. The top-down nature of those mandates also conflicted with the local decision-making approach of IESN's work creating another barrier to teachers seeing any compatibility. The considerable number of comments around the loss of teacher decision-making that took place in the interviews supports this possibility, even though much of that loss was not due directly to the mandates themselves.

These mandates did prevent movement toward the coherence the schools were expected to develop. While there were some parallels (school improvement and professional development plans, use of data for decision-making, teaching portfolios), there were also dissonant elements. Particularly when the schools were trying to focus on individual learning, portfolios, and student projects, many of the current mandated interventions do not mesh well with the philosophy underlying these. This dissonance took time and energy away from other activities, such as collaborative inquiry. As they are mandates, the schools must attend to them, but it is hard to connect them to the philosophical orientation of the reform ideals, making it impossible to maintain coherence as a school based in systems thinking.

Together these environmental factors comprise an environment hostile to cultural change as supported by the initiative. Without time and leadership willing to dedicate resources to pursue individual and school-wide inquiries the teachers were limited in their response. Additionally external support disappeared and with it reform assistance and the pressure for holistic change, while at the same time what appeared was a new external accountability measure and pressure for achievement on a standardized test. This shift in focus created a dissonance for the teachers. Faced with a less than favorable environment teachers mostly chose to disengage, seizing upon occasional opportunities (individual change in their classrooms, “collaborative inquiry-esque” activities, etc.) to return to the work of the initiative.

In the commonalities of the journeys of these four schools we find three responses to changes in the environmental factors. First, a feeling of loss and limitation on the part of the CIG members. Second, attempts to maintain the ideals of the change effort individually as best they can, whether that is in the individual classroom or through maintaining their web of connections. Third, participating in those school-wide opportunities that represent the culture of a learning organization as taking root. The fact that these CIG members continue to experience the challenges of cultural change indicates that there is some movement toward the evolution of each school as a learning organization. Every school has small pockets where cultural change has taken root, though it is more pronounced in Dewey which has some greater control over environmental factors and their impact. Having examined the data for each school, as well as the parallels between schools, the last chapter returns to the two questions posed

by this study.

CHAPTER VII

CONCLUSION

This case study set out to answer the following questions:

- ~ To what extent have four schools involved in the four-year IESN school change effort continued to evolve into learning communities?
- ~ What factors impacted the development of the schools as learning communities since the reform effort ended?

The Evolution Toward Learning Communities

A learning community as defined in this research study would practice Senge's five disciplines as well as have a common process for learning such as collaborative inquiry. This learning process would develop personal mastery and team learning, as well as support the community-building fostered by the practice of shared vision and mental models. In answering this question this section considers the practice of the five disciplines and that of collaborative inquiry (as part of team learning).

The Practice of Mental Models

All CIG members have retained the mental model of school they developed during the reform effort. In their individual classrooms, over which they have more control, they report that they continue to teach in a manner consistent with the changes they made during the reform effort (e.g. student choice, authentic assessments, student-designed rubrics). Some also acknowledge that they are not always as consistent as they had been. What is not evident is a formal on-going scrutiny of that mental model, as would occur

with the regular practice of this discipline. It is conceivable, especially at the high schools, that there is a continual informal scrutiny because the mental model held by the CIG members does not match that of the larger environment. In maintaining a model at odds with those around them, they are continuously examining its worth. This scrutiny might also have occurred for Dewey as they articulated the value of their model and vision of school to a steady stream of new principals and an unsupportive central office. Such a defacto practice of this discipline would seem to reflect a defensive posture, however. To move into a deeper understanding of their model would require a more supportive and collaborative process (Senge, 1990) with others with whom a trusting relationship had been built that would allow challenges or queries about mental models to lead to productive conversation rather than defensive arguments.

As a learning community is built upon systems theory, the mental model or worldview requires a more systemic view of the classroom and school environment. Such a view would focus on multiple dimensions of change (whole, parts, relationships), engage with multiple perspectives, attend to relationships between members, and foster coherence. On an individual level, teachers at these schools have maintained a focus on multiple dimensions of change (the interplay of classroom practice and whole school structure/culture) and multiple perspectives (student perspective, community perspective, and parent interaction) in their conversations. Their desire for a systemic approach to school change still conflicts with the Newtonian or mechanical and linear mindset for change that pervades the structure of most schools. Even Dewey with its small staff and limited autonomy does not articulate a curricular or structural vision different from that of

a traditional school. Though some of that limitation is due to district or state requirements, Dewey has indicated little flexibility in their thinking within those limits.

While there are some indicators that this more ecological view, which supports system thinking is taking hold (e.g. engaging multiple perspectives, integrating for coherence, vertical articulation of learning outcomes), different elements of the reform effort could still be supported as individual changes within a mechanistic worldview. The reform effort, most likely, did not have time to solidify a new worldview for the participants. Indeed, businesses that Senge (1990) highlights as successful learning organizations with a systems orientation took 10 - 20 years to develop. Certainly getting people to change their long-held worldview is a key reason for this. Perhaps, however, the reform gave people a glimpse, a starting point, enough that it could develop on its own, though perhaps very slowly. At this point, it can only be said that the teachers in the study have a nascent ecological world view.

The Practice of Shared Vision

Similarly, a shared vision is still held among the CIG members of what they would like school to be. The shared vision is connected with their mental model of school as being a place of active learning where students are involved in school-wide decision-making and authentic work that produces a useful product, as well as more collaborative teacher-student relationships. In all of the schools this same vision is still articulated through the mission statement and goals in school improvement plans, handbooks, and other formal school documents. So though a mission statement and goals are a required

component of some of the school's public documents, it is only a requirement to have them, not to work to ensure their shared nature. Mission statements by their very nature are general and vague and thus easily supported all, while actual beliefs remain unearthed (Leithwood, 2002). Without a collaborative examination of school-wide and classroom practices to ensure that the vision is being implemented a school community cannot come to a conclusion about the implementation of the ideals professed in the mission statement, the supposed shared vision. Yet, except for Dewey none of the school communities are having those conversations about how their actions are or are not supporting that mission. As the mission of schools in reality becomes "all students will achieve on standardized tests," the activity of developing a shared vision or mission is ignored for seemingly more practical concerns.

All the schools have changed at least one of their goals in the past four years by using some form of collaborative discussion process, usually through a representative faculty group. Using a representative process leaves to chance the development of a shared vision among all staff. So as with mental models there is not a conscious effort to develop a shared vision among the larger faculty (in the case of the larger schools) or to deepen it (as in the case at Emerson). The coherence of the program at Emerson helps develop a tacit sharing, but not the deeply held and articulated vision required for a learning community to thrive in meeting its mission.

The Practice of Personal Mastery

All the teachers in these four schools self-report that they still reflect on their

practice, participate in professional development, and try to maintain an inquiry stance towards the learning and teaching process, though since this was self-reported, it is challenging to draw a firm conclusion on this practice. The reflecting that occurs, by their description, is done less formally, or with less intention, than it was during the reform initiative. In fact, most noted some frustration with themselves over that.

Most teachers are not keeping reflective journals as they did, nor are they doing collaborative inquiries which include reflective components. Lack of time seems to explain this in part, as well as changes in priorities for them. The most prominent change in priority is the focus on efforts related to NCLB, which they perceive as contradictory to, and incompatible with, the work of the reform effort. The teachers in this study are frustrated at having to respond to the demands of NCLB in their school, thus leaving them less time to reflect on the learning/teaching process and their classroom. It is possible that keeping a reflective journal, as the teachers were doing during the initiative, was still in an early stage of development as a tool when the reform ended. With the practice of effectively reflecting not a habitual part of their routine, the benefit of keeping a journal may not outweigh the cost in a teacher's decision-making process of where to put one's energy. So when this new reform effort began that did not support such reflection, journal writing was set aside.

During the IESN reform effort opportunities for personal mastery and individual teacher reflection were also connected with collaborative endeavors. As the opportunities for collaboration dissolved, opportunities for such reflection disappeared, as well as the impetus and support of a peer culture to do so. Individual growth is hindered, in the

perspective of these teachers who, while doing some work in personal mastery and learning about their practice, feel they are not doing enough. With team learning hindered, individual growth occurs on a limited basis.

The teachers continue to participate in professional development workshops offered by the district and the school. Most lament a decrease in professional reading, noting that the initiative provided an impetus to read. Questions raised from an inquiry into one's own practice are not answered through professional development, but through self-reflection and conversations with colleagues. Yet such opportunities for team learning are rare, most are informal and left to chance, at best minimally maintaining relational integrity.

The Practice of Team Learning

Collaborative inquiry was the key learning process used by the reform effort that supported the practice of both the personal mastery and team learning disciplines. During the reform effort the practice of team learning centered on the development of group practices, group learning and reflection, and the analysis of data in making decisions. Collaborative inquiry groups, the main vehicle promoted by the reform effort, have not continued in any of the schools. Lack of time and motivation (as other efforts took precedence for the limited free time of teachers) are the major reasons for its discontinuation. The teachers at Emerson also suggest that the energy and critical stance that collaborative inquiry requires cannot be maintained indefinitely. While collaborative inquiry, as it was practiced during the reform effort, is not occurring in any of the schools,

there are some aspects of it still evident in data analysis, study groups, and “collaborative inquiry-esque” professional development.

All the schools use data collection and analysis in making decisions about school-wide concerns such as curricular offerings, scheduling, and development of special programs such as freshman transition programs. The continuation of this practice is aided by the fact that such analysis is now mandated by state and federal educational agencies in conjunction with school improvement plans. This analysis focuses on the parts (such as test scores, specific subjects, categories of students) and not the whole system, thus limiting its ability to provide the impetus for the learning community to change. For Dewey, this analysis is school-wide in scope, for the others it was most often department or grade level. If nothing else, NCLB’s requirement for disaggregated data has made data accessible in a form the schools wanted but were not able to get during the reform. Still the data that is collected is mostly limited to occasional standardized test scores. It is not the regular on-going collection one would expect of a learning community. Similar to use of reflection journals, this skill and habit was just being developed when the reform ended.

All the schools implemented school-wide study groups after the reform initiative ended. Perhaps this is because of the prevalence of the idea in the professional literature as an effective, and inexpensive, form of professional development. Though it took different forms at each school all involved the common examination of either a text (Dewey, Thoreau, Pierce) or student work (Emerson). Emerson’s team learning effort most resembled the work of the CIG during the reform effort. For all the schools, the use

of study groups occurred in the third year out after the reform ended and had mixed success from the perspective of the teachers. Pierce CIG members attributed this to the lack of a skill set by most study group members to be successful in a team learning setting (e.g. facilitation, active listening).

Study groups may appear to be easy to implement, but they do require an understanding of group learning and facilitation skills. While the CIG members could have provided this knowledge they were not requested to do so. But neither did they offer. As a matter of fact, the protocols used to structure conversations to facilitate learning that were well-liked by the teachers during the reform were not used in the schools. CIG members are apparently not comfortable with promoting such to their peers. While the reform effort worked on providing this skill set to use the protocols it did not provide the skill set for promoting the process to peers.

Study groups provide one avenue for learning but there is no mechanism for study group members to learn about themselves and the system in which they work, key requirements of team learning (Senge, 1990). Emerson instituted team meetings which examined student work and led into some discussion on practice, but not formal inquiries delving deeply into practice. Similarly, Dewey faculty meetings, as during the reform initiative, have continued to be a place where issues of practice are discussed but not with regularity. Still the culture at Dewey promotes collaboration, data analysis, and the perspectives of students and parents. These are elements of a team learning process missing at those faculty meeting described by the high school teachers as a venue for one-way dissemination of information.

Thoreau likewise has placed elements or characteristics of collaborative inquiry into new activities, such as Freshman Literacy work, and most recently the 4-D program for students (Define, Develop, Do, Defend). Though no formal inquiries into practice are occurring there is collaboration, a sharing of “what works” (indicating an inquiry stance), reflection on that sharing, and some public exhibition of best practices when professional development sessions are held for the rest of the faculty. In this situation, as well as the others, former CIG members attempt to weave elements of collaborative inquiry into new situations as they seem appropriate, influencing these activities to maintain the collaboration and inquiry stance of the formal collaborative inquiry process.

Given the context of increasing accountability to standardized tests, and a changing leadership, both of which decreased the participation of CIG members in whole-school change, this less than overt weaving may be the best response that can be expected. Even though the CIG members developed and participated in these new hybrid activities, most spoke of wanting more. The current practices are not fulfilling the need that these teachers have for the constant practice of individual and group inquiry. Overall, the profession has not moved far from the characteristic of teacher isolation noted by Goodlad (1984) and Lortie (1975). Opportunities for team learning are described by the interviewees as an enabler for individual self-reflection, and thus learning. Without a formal process of collaboration and reflection, the learning (both individual and group) is left to chance. Without team learning the entire organization does not grow systemically.

The organic growth of team learning in the school, where skills and practices of

the CIG members were passed on to others, has been very rare. When CIG members were asked about examples of the school as a learning organization few possibilities came to mind. More often the CIG members gave examples of where they practiced their skills, such as when Sue was able to capitalize on the confluence of new leadership for her department and an influx of new teachers to foster public discussions of classroom practice. When the environmental factors changed Sue was able to employ skills and knowledge that had been stored away. In these types of situations the teachers are taking advantage of opportunities to use their skills and knowledge, but not creating those opportunities, at least not overtly. Future school reform efforts may want to foster a more active stance of change agency.

Still, these examples of team learning are all disjointed and accidental pieces; though, perhaps, the pioneer plants in the succession of a school reform effort. There is not the coherence of efforts in professional development one would expect where systems thinking is employed. Certainly the concept of all members of the system (parents, students, teachers, staff) learning together has yet to be actualized anywhere, though Dewey through its town hall meetings has made strides in that direction. At best there are times when teachers and students are learning in parallel. Systems thinking remains elusive.

The Practice of Systems Thinking

Systems thinking involves considering the system as a whole, the elements that comprise that whole, and their interrelationships. During the reform effort this thinking

was fostered by focusing on soliciting and empathizing with multiple perspectives of stakeholders in the system, considering multiple dimensions of change simultaneously (termed “zooming” by IESN), focusing on relationships, and developing coherence between change efforts and vision.

Developing whole school portfolios was one way the reform effort hoped to engender this holistic look at the system. In presenting its totality in a single document each school publicly held itself accountable to its mission and goals. None of the schools is currently using a portfolio, but they all continue to use a similarly designed school improvement plan. However, as the plan is state-mandated it cannot be determined whether the school would choose to do a self-study process on its own. All of the schools except for Thoreau have continued to use some process to provide for wide-spread involvement (teachers, parents, students) in creating the document. Though only at Dewey does that involvement include community involvement beyond the required representative element. For the most part while this element is present it seems to be more for compliance to an external mandate than an internal quest for understanding.

Accountability for IESN also meant a systems approach where all those who were part of the system had input into influencing the system and understanding the system. Schools during the reform initiative were working to include students and parents in being part of their decision-making process, sometimes as part of a site-based decision-making team. At Dewey, Emerson, and Pierce the teachers are part of decision-making committees, which also include some parent or community members, even on committees where it is not required so schools have continued to believe in a broader commitment to

gain multiple perspectives. While there is some commitment to this idea, it would appear to be minimal and more an issue of compliance than strongly held conviction. This lends credence to the conclusion that this aspect of system thinking is not practiced.

With limited collaborative structures most schools do not focus on interrelationships of the system. Teachers speak of building relationships with students in their individual classrooms, but not with peers in the larger community (with the exception of Dewey). The CIG members did articulate awareness of the need to attend to such, though, as one of their laments that collaboration was not happening.

These former participants in the IESN initiative are trying to develop coherence in the system to ensure that all children can learn. They are exploring ways to know student strength and weaknesses better and to create carefully crafted programs to provide a coherent educational experience from the perspective of the student. Dewey does it by maintaining a small size, multi-age instruction, and a democratic community. Emerson did so with multi-age classes and now looping, as well as its school-wide focus on the environment and its spiraled curriculum. The high schools struggle with doing this on a large scale, though both developed programs for freshmen to transition to high school culture. Each has continued these efforts providing evidence that this aspect of systems thinking still holds currency.

Comments from teachers during the interview also suggest that they continue to understand and discuss their school as a system even though current change efforts may not be systemic in approach. In the interviews they spoke both from the perspective of the individual classroom and the whole school and the impact of each on the other. This

understanding seemed to be part of the dilemma of putting the IESN reform and current efforts together where systemic change continues to be given lip-service, but not promoted in practice. In such a setting it is hard to observe systems thinking in action. We have to rely on teachers' descriptions of what it could be.

At this time there is not enough evidence to prove that the teachers in this study have developed the more ecological view of systems thinking. Their ability to maintain pieces of the change effort without pushing for system-wide changes that would permit those pieces to flourish could indicate they still hold a more mechanical mind set. Perhaps they even see the IESN initiative as having been just another piece, an effort just like a math reform or a new approach to teaching science, rather than an umbrella to cohere all change efforts at the school. Or it may be that the political pressure to focus on standardized testing narrowed their attention away from school-wide issues and onto a single element. As they have not had the opportunity to practice this discipline for the past three years it is understandable if it has not developed to be more evident.

Answering the First Question, in Summary

What is not apparent throughout the data is a conscientious effort to practice the five disciplines. As the practice of each requires collaboration that practice was lost with the loss of collaborative opportunities. At the same time, even with few collaborative opportunities, aspects of the practice of these disciplines continues, though in a fragmented manner. So while I would answer the first question as saying that there is no evolution, particularly as a whole school, as with other school reform efforts there are

positive residual effects (Taylor, 2005). All the schools show attributes of learning communities. In place of the more formal structure of the collaborative inquiry groups, teachers continue to discuss issues of practice with each other through informal conversations. Individual teachers have maintained their inquiry stance, but pursue questions about teaching and learning in a more informal manner, guided by the inquiry cycle, but with less structure than laid out and used during the reform effort itself. Evidence, from self-reports, indicates that without the collaboration component they have not deepened their understandings in the intervening years. The structures of teaching portfolios and public exhibitions of changes in practice are no longer employed. So while these teachers continue to question their practice with the intent of increased learning, the sharing outside of their individual practice is limited, which were elements that supported the reflection necessary to not only deepen the personal mastery (Senge, 1990), but also the move from being held accountable to being accountable. In appearance this slight evolution or adaptation looks remarkably similar to the minor adjustments or “tinkering” that Tyack & Cuban (1995) saw in school reform efforts over the past century.

Factors in the Development of the Schools as Learning Communities

The factors that affected school change in Taylor’s (2005) review of school reform are all present in this study. Those with the greatest impact were leadership, faculty retention, alignment of effort, funding, staff capacity, professional development and reform assistance, and protection from competing reforms. In addition, size also may have some impact. Research on school size and change is just beginning, as the small

schools movement has begun to develop over the last five years. These factors as configured for this study will each be considered in turn, followed by a summary response to the second research question.

Leadership & Collaborative Structures

The reform initiative worked directly with teachers to build their capacity to evaluate data, make decisions based on that data, study their own classroom practices and school practices, and collaborate on school change. The intent was that once such capacity was developed the teachers would maintain these practices, and the underlying learning process, through the relatively short tenures of school administrators. The interview data supports that such a capacity did extend beyond the reform initiative. Individual capacity is evident at Thoreau, for example, where CIG members are able to influence some aspects of the school's piecemeal change activities, but not the overall approach. That capacity among CIG members, however, remains mostly a potential as it is not being used for school-wide decision-making or improvement in a substantial form.

The capacity was developed during the reform effort as part of a collaborative leadership model. However, that capacity could not overcome the formal power held by the principal and his/her impact on change efforts, if he/she chose not to employ a distributed leadership model. While the teachers may have the capacity, the principal determines whether it is used or not. School administrators, without the same experience of learning community as the teachers, did not have the necessary "knowledge of practice" to do so.

The principal not utilizing the capacity of CIG members may be due to the fact that the principal is not interested in, or fears, a more collaborative leadership style, as seems the situation at Thoreau. At Pierce, where the principal appeared more amenable, he did not know how to go about utilizing the skills of the CIG members and the teachers did not know how to present the option. This suggests that the additional skill set of promoting oneself is necessary in developing the capacity of teachers to maintain a learning community, or even a more distributed leadership style, through changes in school administration.

Loss of opportunity for the teachers to engage their capacity was aggravated by the appearance of the federal legislation of NCLB. The legislation increased the accountability on the principal for student performance on standardized tests. With the onus of responsibility on the principal, she/he may have felt less freedom to share power with, or even pursue directions proposed by, teachers. From this research we do not know whether a supportive principal could also have maintained the reform effort at a school like Thoreau or Pierce where there was a small percentage of staff dedicated to the reform ideas. Though, as noted in the interview with Pierce, the team learning activities of another network high school that had a supportive principal (not studied by this research) had come to a “screeching halt. Nothing is happening for them right now. They are not meeting at all. So, part of this is not only leadership” (Pierce Group Interview, 12 January 2006, 329).

At least it is not only building leadership. Leadership at the district, state, and federal levels is exerting greater influence and control. These other layers of leadership

countermand local efforts for change in these schools. While all schools needed to make annual yearly progress, the high schools, by virtue of being the final mandatory educational institution from which students graduate, have a critical measure of accountability. This may lead to a perception of having less of an option to continue reform efforts that do not match the federal and state mandates. In the face of such accountability willingness to change and risk using new approaches decreases and one just redoubles efforts with what is known and familiar. Accountability imposed from outside and not aligned with the efforts of the school negatively impacts the efforts toward coherence. Fullan (2005) now argues for a coherent effort from the individual classroom level to federal strategies to alleviate such negative impacts.

NCLB impacted the two smaller schools as well, even though their leadership stayed essentially the same. In Emerson's case it was because there was the same supportive and knowledgeable principal in the years following the initiative. At Dewey the leadership was strongly vested in staff and parents, so the normal role that the principal would play of setting direction, was provided, over the years, by the school-based decision-making team. In both situations however other mitigating circumstances prevented a response to NCLB that may have incorporated NCLB requirements into the reform effort, as might be expected of a learning community. For Emerson it was the loss of key teacher leaders and for Dewey it was the concern over being closed down. Dewey seems to have survived best due to its distributed leadership and smaller size, though it has lost a key person each year since the reform effort ended, which has required orienting new people and has slowed its development as a learning community.

School administrators have control over the resources necessary to support the practices and structures needed for collaborative decision-making and its incorporated data analysis. Leadership can still determine the number of opportunities for collaboration and without those opportunities collaborative inquiry can not be practiced, nor team learning or shared vision. Relational integrity suffers as without collaboration it can not be strengthened in ways that support the practices of a learning community. Even personal mastery was impacted for the teachers who had been through the professional development of the reform initiative as the collaborative elements were a key element of the development of personal mastery.

Coherence & Relational Integrity

The interrelated nature of the environmental factors and the five disciplines requires that they be systemically coherent to give the best opportunity for success. This research shows the need for a multi-faceted approach if we are really serious about reform. It also points out the value of coherence for a learning community. Dewey and Emerson who had maintained more of the reform elements also had the most coherence.

The challenge for a school striving to be accountable and have coherence is that external mandates are often piecemeal. Thus it can be difficult, even if teachers in schools hold a systemic or ecological view to fit these pieces in. Without that coherence, the mandated requirements become a distraction as described by the teachers in this study. This is akin to the argument Meier (2000) makes about the waste of effort that non-traditional schools must expend to receive waivers from state and district requirements

that interfere with their coherence.

Coherence was discussed previously as an aspect of systems thinking. It is also tied to leadership and the power the principal (or other levels of leadership) has in determining with which reform efforts a school is involved. Coherence is aided at Emerson by a principal who seeks grants and chooses professional development opportunities that work together to build toward the shared vision. There is no evidence that such attention is paid to coherence in the other schools. Both coherence and relational integrity are environmental factors that impact the practice of the five disciplines, and at the same time are elements that need to be fostered by the five disciplines.

Relational integrity developed during the four years of the reform effort seems to continue. Teachers still informally get together to discuss practice and see themselves as part of a CIG. Relational integrity is particularly strong at Thoreau and Dewey who both share the experience of feeling that someone has opposition to them. While this opposition may have increased the strength of the bond between teachers, it is not a very productive way to do so. Both also chose to extend their relational integrity (as a group) to new teachers. Their understanding of its strength and importance as a factor to reform work is evident in their attempts to be inclusive. Clearly, though, relational integrity is negatively impacted by the lack of collaborative structures and team learning.

Enablers

This research supports the importance of enablers over the long term. During the

reform effort outside coaches met regularly with the collaborative inquiry groups. CIG members were vocal about the necessity of an outside person to whom they felt accountable to ensure that they regularly engaged in the process. No structure was adopted after the grant to act as that external accountability agent and the daily obligations of teaching overcame the teachers' desires to continue collaborative inquiry as well as any internal accountability that may have developed during the initiative. This points to the need for support longer than the four years of this reform initiative. The fiscal challenge of maintaining an external coach over an extended period of time may not be viable, but research into other mechanisms that provide such support until internal accountability for such support becomes instituted should be fostered. That is not to say that enablers outside the school will become unnecessary, but that they can play a more occasional role.

For instance, the two small schools in this research which evolved more strongly into learning communities more often use enablers. For neither school do the enablers take the form of paid school change coaches dedicated to fostering collaborative inquiry or school reform. Rather student teachers (in the case of Emerson) and parents (in the case of Dewey), who know the school context well and can offer input into the learning-teaching process, play that role. So while not supporting collaborative inquiry, these enablers do play a role that aids self-examination and reflection. This lends credence to the possibility that enablers are an important and interrelated factor. Enablers kept learning alive in schools where they were more present; most likely by helping schools maintain a sense of accountability to improving practice so as to increase student

learning.

The distinction often made between the merits of internal versus external accountability may be a false, or at least inappropriate, dichotomy. Pressure from outside may be an integral component of personal internal accountability – certainly the teachers individually expressed a desire for such pressure from the CIG to keep them working on improving their teaching in a systematic and focused manner. The option to short change the more difficult process of inquiry for the short-term benefit (of time, test score results, etc.) may be too great for a busy teacher. In some respects, knowing how the system works well enough to request the assistance of enablers is a sign of systems thinking. This leads to the question “Is it reasonable that these teachers would become self-disciplined enough to do this on their own given their current circumstances of all-day teaching, lack of collaborative opportunities, and incoherence?”

Size

Though not considered to be an environmental factor in the empirical research literature, size seems to enable the development of a learning community. The two small schools (Dewey and Emerson) consistently had stronger school-wide practice of the disciplines and supportive environmental factors.

It seems common sensical that schools with smaller staffs have the ability to hold and maintain a shared vision more easily. The evidence in this research indicates less shared vision for the larger schools, while remaining strong among the members of the CIGs. Smaller schools, which have a greater percentage of staff as CIG members, have

the advantage of a critical mass to create whole school change around that shared vision and a common mental model.

Even environmental factors such as relational integrity can have an easier time developing with a smaller staff, as there are fewer people and a smaller set of relations to develop. While small size does not guarantee a benefit, it seems to assist in this study. The small schools have more coherence of effort, perhaps because of the more tightly held shared vision, perhaps just because there are fewer people to go their own way.

One caveat is that the smaller schools were also 1-8 schools and had some more flexibility in their approach. Their more generalist approach to curriculum can lend itself to developing more coherence. Central Park East, a high school in New York City, was able to accomplish this coherence and shared vision as a high school, but it was also small (Meier, 2000). Indeed the whole small schools notion is built upon this idea that smaller size enables the systemic elements that support learning communities. Central Park East also does not have the onus of being a comprehensive high school with a variety of disconnected programs as do the high schools in this study.

Answering the Second Question, in Summary

This study confirmed the impact of factors found in other research on school reform to be applicable to learning communities. Leadership, time and resources for collaborative structures, coherence, relational integrity, and enablers (both external and internal) are key environmental factors affecting the ecological whole of an organization. Additionally it suggests size is a factor, if not a catalyst, that can ease implementation of

the disciplines.

Time is important in two ways in this study. First, is its necessity during the school day for teachers to be able to reflect individually and collectively about the impact of changes in practice and the subsequent data collection. Secondly, is the duration of assistance and practice required for teachers to develop the habits of practice required by a change effort the results in new mental models and worldview. While teachers in this study highlighted the length of time it took for them to become proficient, it may be that an increase in time during the school day, may lead to an increase in the length of time for proficiency to develop.

However, the data in this study supports the value of an enabler during those reflective times and over time. The results even suggest that an enabler may always be needed, so finding enablers that can be long-term, external enough to the system to push both school and teacher practice, and cost efficient will be a creative challenge. Most likely research will also need to consider qualities of effective enablers.

More importantly this study highlights the interaction of all the factors in a learning community. Particularly obvious is the interplay of leadership, collaborative structures, and relational integrity. Another interaction is the feedback loop arrangement between relational integrity, shared vision, and team learning. A similar feedback cycle is apparent between systems thinking, mental model, and coherence. So with such an interplay between factors how does school reform approach change for a learning community?

Reflections on School Reform and Sustainability Research

The practices and processes employed by the schools during the reform initiative (e.g, CIG, portfolio, critical friend visits) have not continued as had been intended. Most importantly, members of the system did not collaboratively come to a decision based upon data to decide that the reform practices would not be continued. If this had occurred, then the key process underlying learning communities, as fostered by IESN, would be evident. Rather practices ended because there was no impetus to continue them. That a collaborative inquiry process was not employed to determine whether the reform practices should continue indicates that learning communities did not survive.

In fairness, legislative mandates from outside the school, or directives from a new principal inside the school, did redirect energy, effort, and time. While some of these directives are aligned to the change efforts, there are others that the teachers could not reconcile with the work they had done during the reform effort. In this changed environment CIG members did not see ways to continue the reform efforts. Their view of the NCLB and PL 221 mandates as being “contrary” (Jill, 15 August 2005, 61) prevents them from trying to continue the reform practices or the collaborative inquiry process. In particular there is no time or energy to put towards reconciling the old and new reform efforts or accommodating or subverting them. But what is the lesson for school reform for a learning community which only has a short time to sow its seeds?

During the interviews the teachers did not characterize themselves as part of the leadership of the school. I am not sure that, except at Dewey, the teachers ever saw themselves as the leadership. Leadership, for them, was still vested in the principal and

their role was to help the principal. IESN project facilitators realized near the end of the initiative that they had not paid enough attention to supporting the development of the principal. Perhaps what is needed is a deeper understanding of distributed leadership among all. Intertwined with that deeper understanding, the reform effort may have needed to strengthen the capacity of teachers to promote and push for change, rather than just participate in it.

Environmental factors play a key role, as they limit the opportunities for the school or CIG to act as a learning community. The designers of the reform effort knew that learning communities had to change the environment and it was the expectation that as teachers developed new understandings about the learning-teaching process they would push for a change in the structure of schools. Perhaps the effort was too focused on changes to the structure. Maybe the reform designers were limited themselves by an incomplete ecological worldview, focusing more on parts than on relationships. Or perhaps the more ecological mindset that underlay the IESN reform effort had presumed a slow evolutionary process with the work. Evolution that may have occurred if the environment in which the reform effort had been working had continued, as there was considerable coherence between the state mandates and the IESN effort at the time. Consideration of how to proceed when the environment dramatically changes was not contemplated. So when the environment changed with NCLB, the teachers acted just as one might expect, in keeping with an ecological and evolutionary metaphor, they hunkered down waiting for the storm to abate. In such a situation, rather than waiting, a learning community would be expected to actively adapt, not wait for things to evolve.

At the same time Dewey's experience provides another perspective. Unique to Dewey was its concern over survival for three of the years since the project ended. Being in this survival mode limited the growth of individuals and definitely of the community as a whole. Not only did focusing on survival keep Dewey from collaboratively inquiring, it also kept them from engaging in any learning process. Now as they feel safe about their future they are "coming out of their slump." (Joan, 7 November 2005). The other schools seem to be making some similar stirring: Thoreau by meeting again as a CIG on their own, Emerson by developing its team meetings to inquire into student work, and all the schools by attempting school-wide study groups. Perhaps a natural stage of the development of a learning community, where a great expenditure of energy is required for the initial reform effort, is a hibernation or resting period following that effort. Or when faced with events that conflict with the community's sense of self, the community members ride out the "winter," waiting for a new spring. Each has implications for how we structure reform efforts and research into those efforts. Whether these schools can pick up where they left off and continue the work, after a period of hibernation, remains to be seen. Long-term sustainability may mean recognition of hibernation-like periods, an ebb and flow of energy.

Taylor (2005) states that "Researchers should be clear about what is being sustained" (p. 25). This study suggests that what is meant by sustainability in school reform may have to be redefined for a learning community. In the mechanistic view, sustainability would seem to mean that the new idea or adjustment promoted by the change effort is still present and one could observe its presence or not. An improvement

had been made initially and as long as that improvement is maintained, there is sustainability. For example, a teacher who adds cooperative learning to his or her teaching repertoire and uses it as needed has made an improvement. In a mechanistic view, the change is sustained as long as what that teacher learned about cooperative learning is still employed. Improvement upon that knowledge or skill does not necessarily enter the equation. Thus an evaluation of, or research upon, that reform from a mechanistic view would be limited to a consideration of whether the skill is present or not. Due to the fact that there are few empirical studies of the sustainability of school change Gersten, Chard, & Baker (2000) contend that lessons can be learned from the 30 years of research into the sustainability of innovative learning practices. This may not hold true for learning communities. While we can learn something from the study of sustaining innovative teaching practices, these studies examine whether a specific practice is present or not present.

Whole school reform built upon a more living, organic, and systemic view has growth or on-going change as the end result, not a static implementation of a one-time change. As the whole process of growth and change is on-going, one could say that if schools have not yet abandoned the change process they are still sustaining it. In a changing or growing community, for example, any new practice or idea may still be present, may have been revised based on new understandings, or may have been dropped altogether as no longer appropriate. One would look for evidence of the process undertaken to come to one of these three possibilities. Sustainability in a learning community is more about processes continuing, than practices.

Gauging success in terms of sustainability, like replicability, thus means something different in a systems view. The end result of replicability in a mechanistic view would be schools all looking basically alike. Such an end result would not make sense in a more systemic view, even though there may be similarities among the schools or the processes they used to develop their own community. The learning community is an interrelated set of practices (collaboration, peer support, data-based decision-making) and dispositions (inquiry stance, mutual respect, willingness to risk). Its assessment involves not only data on evidence of practices, but also degree and balance (what may be a “right” combination for one school, may not be for another). Due to this complexity, finding universals of sustainability is a challenge.

This study, while informing the formulation of these three points (impact of worldview, hibernation as a regular stage of development, meaning of sustainability in a learning community), does not provide enough information for a thorough discussion. Future studies need to examine more deeply questions about when an organization has become an on-going learning community, what the key processes are that such a community requires, what kind of life cycles these communities have, and how does one assess a continually changing community.

A related challenge to discerning impacts on the growth of a learning community is highlighted in this study by the use of study groups and data analysis in the schools. The prevalence of study groups in the professional development literature and the mandates to do data analysis provide an interesting challenge in considering key factors of cultural change taking hold. There are a number of changes occurring at these schools

whose impetus is difficult to determine with certainty. Some aspects of the mandates and conversations in the professional field of education have paralleled, if not been influenced by, the CES principles and elements of the IESN change effort. For example, all the school-year professional development sessions offered by the IESN initiative focused on assessment and use of data for making classroom and whole school decisions. NCLB's focus on data has a similar intent. While IESN schools had been struggling with getting access to data to be able to use it well, the mandate of NCLB has forced states and school districts to provide data in a format accessible to manipulation and deeper analysis. All schools in this study continue to use data more than they did prior to the change initiative, but while during the reform effort schools were initiating the analysis, as one would expect of a learning community, it is now required of all schools and the intention (important in determining status as a learning community) behind the use of data cannot be clearly determined. The appearance of NCLB confounds the research into the sustainability of that element.

Lastly, the interrelated nature of the process, five disciplines, and environmental factors make it impossible to determine with certainty any cause - effect relationships between reform efforts and change. The interconnected nature of these elements and their potential feedback on each other defy finding a singular cause. This provides a substantial challenge to implementing school reform efforts as multiple fronts need to be addressed simultaneously. Research such as this can begin to provide information on which fronts, and what amount of effort would be needed over the life of the effort, but not with the certainty of success seemingly hoped for by most educators, legislators, and community

members. Rather developing a community of learners with the requisite skills and relationships to both further those skills and relationships remains a messy and time consuming process.

Footnotes

¹ This study uses the term learning community, but the author acknowledges great similarities between the terms “learning community” and “learning organization.” In referencing other authors, whichever term is employed by that author is used here.

² In an ecosystem a change in one aspect of the ecosystem (an increase in number of deer, for example) affects another part of the system (an increase in wolves who eat deer and a decrease in plants that deer eat). This is a feedback loop. A thermostat and furnace is another example of a feedback loop where a decrease in the temperature causes the thermostat to turn the furnace on and when the temperature increases it causes the thermostat to turn the furnace off, completing the loop.

³ IESN felt that students should be held to rigorous standards of learning, but there should be multiple ways for students to both achieve and demonstrate mastery of those standards.

⁴ The practice of having a teacher remain with the same group of students for two or more consecutive years

⁵ In Indiana all beginning teachers are required to develop a portfolio demonstrating their ability to teach in order to receive their license.

⁶ Loretta’s sister teaches at an elementary school in the same district as Dewey.

⁷ Why the teachers did not bring to bear their knowledge of group process into study groups would be an interesting followup research project.

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APPENDICES

APPENDIX A

Coalition of Essential Schools Common Principles

1. The school should focus on helping young people learn to use their minds well. Schools should not be "comprehensive" in the sense of providing a wide range of auxiliary services, if such services are provided at the expense of the school's central intellectual purpose. Schools should be comprehensive in the sense of addressing students' social and emotional development as well as their academic progress.
2. The school's academic goal should be simple: that each student master a limited number of essential skills and areas of knowledge. While these skills and areas will, to varying degrees, reflect the traditional academic disciplines, the program's design should be shaped by the intellectual and imaginative powers and competencies that students need, rather than necessarily by "subjects" as conventionally defined. The aphorism "less is more" should dominate: curricular decisions should be guided by the aim of thorough student mastery and achievement rather than by an effort merely to cover content.
3. The school's goals and expectations should apply to all students, while the means to these goals will vary as those students themselves vary.
4. Teaching and learning should be personalized to the maximum feasible extent. Teachers who know their students well can individualize instruction without limiting their expectations. Efforts should be directed toward a goal that no teacher at the high school level have direct responsibility for more than 80 students or on the elementary level, more than 20. To capitalize on this personalization, decisions about the details of the course of study, the use of students' and teachers' time and the choice of teaching materials and specific pedagogies must be unreservedly placed in the hands of the principal and staff.
5. The governing practical metaphor of the school should be student-as-worker rather than the more familiar metaphor of teacher-as-deliverer-of-instructional-services. Accordingly, a prominent pedagogy will be coaching and guiding, to enable students to understand how they learn and thus to teach themselves and each other.
6. Teaching and learning should be documented and assessed with tools based on student performance of real tasks. Multiple forms of evidence, ranging from ongoing observation of the learner to completion of specific projects should be used to understand the student's strengths and needs and to plan for further assistance. Students not yet at appropriate levels of competence should be provided intensive support to assist them quickly to meet those standards. Students should have opportunities to exhibit their expertise before family and community. The diploma

should be awarded upon a successful final demonstration of mastery for graduation—an "Exhibition." As the diploma is awarded when earned, the school's program proceeds with no strict age grading and with no system of "credits earned" by "time spent" in class. The emphasis is on the students' demonstration that they can do important things.

7. The tone of the school should explicitly and self-consciously stress values of unanxious expectation ("I won't threaten you but I expect much of you"), of trust, and of decency (the values of fairness, generosity and tolerance). Incentives appropriate to the school's particular students and teachers should be emphasized. Parents should be key collaborators and vital members of the school community.
8. The principal and teachers should perceive themselves as generalists first (teachers and scholars in general education) and specialists second (experts in but one particular discipline). Staff should expect multiple obligations (teacher-counselor-manager) and a sense of commitment to the entire school.
9. Ultimate administrative and budget targets should include, in addition to total student loads per teacher of eighty or fewer pupils on the secondary level and twenty or fewer on the elementary level, substantial time for collective planning by teachers, competitive salaries for staff, and an ultimate per pupil cost not to exceed that at traditional schools by more than 10 percent. To accomplish this, administrative plans may have to show the phased reduction or elimination of some services now provided students in many traditional "comprehensive" schools.
10. The school should demonstrate non-discriminatory and inclusive policies, practices, and pedagogies. It should model democratic practices that involve all who are directly affected by the school. The school should honor diversity and build on the strengths of its communities, deliberately and explicitly challenging all forms of inequity.

APPENDIX B

IESN Reform Effort, 1998-1999

Inquiring Collaboratively about Standards-based, but not Standardized Learning for All Students

Essential Question

With the 10 Common Principles as our guiding framework, how do we develop a systemic culture of inquiry that supports standards-based, but not standardized, learning for all students?

Outcomes

- A. Teachers will use the inquiry cycle to understand how the dynamic interrelationship of standards, curriculum, and assessment affect student achievement of standards.
- B. Based on that understanding, teachers will continually adjust instructional strategies, curricular engagements, and assessment techniques to ensure that all students achieve standards.
- C. Students will demonstrate an internalization and achievement of standards in authentic ways.
- D. Individual schools will collaborate with other consortium schools, parents, students, and community members to determine quality student work.

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- B. Based on that understanding, teachers will continually adjust instructional strategies, curricular engagements, and assessment techniques to ensure that all students achieve Indiana standards.
- C. Students will demonstrate an internalization and achievement of Indiana standards in authentic ways.
- D. Individual schools will collaborate with other consortium schools, parents, students, and community members to determine quality student work aligned with Indiana standards.

APPENDIX C

Dewey – Documents Reviewed from the Implementation Phase

- ~ School Handbook 2001-2002
- ~ New Teacher Expectations
- ~ Dewey School application form 2000-2001
- ~ School Brochure (tri-fold) 2000-2001
- ~ Parent volunteer form
- ~ “What we would like all kids to know or be able to do before exiting our school” handout
- ~ Minutes of Discovery Town Hall Meeting, February 1999
- ~ Student Rubrics: Language Arts, Research, Presentation, Reading, Writing
- ~ IESN Benchmark Progress Report 1999-2000, May 2000
- ~ Peer Coaching Proposal 2000-2001
- ~ Peer Coaching presentation at Spring Forum, 2001
- ~ Portfolio Night Handout to parents, January 2002 (Student-Led Conferences)
- ~ Narrative report card form elementary and middle school versions
- ~ Student Benchmarks Document (Benchmarks at each level in reading, writing, math, research, presentations, science/social studies content, self-directed learning, listening, reflection)
- ~ Student data charts for ISTEP scores, NWEA scores, Climate survey, Benchmark progress
- ~ School Improvement Plan, 2002

Emerson – Documents Reviewed from the Implementation Phase

- ~ Coach’s Final Report, May 2001
- ~ Spring Forum Presentation Abstract/Handout, 2001
- ~ Notes from “Data Days” end of year data review, Spring 2001
- ~ School Plan Document - 2000-2001
- ~ School Portfolio, 2000-2001
- ~ Critical Friends Visit Report, April 2002
- ~ Schedule Critical Friends Visit, Network elementary school
- ~ Terra Nova results, Years 1997-2000
- ~ Vision and Goals for Environmental Education, March 2000
- ~ Essential Questions for Environmental Curriculum document
- ~ CIG Report, March 2000
- ~ In-house Workshop Evaluation Document, Jan 2000, Mar 2000
- ~ CIG Baseline Graph & Interview responses
- ~ CIG Survey, Jan 2000
- ~ Ethos & Rights Document
- ~ Student, Parents, Teacher Rights & Responsibility Document
- ~ IESN Membership Application, 2002
- ~ School Brochures

Pierce – Documents Reviewed from the Implementation Phase

- ~ June 2000 Benchmark Progress Report
- ~ Biology Course – Student Goal Setting Sheet; Student Learning Objectives
- ~ Java & Jive Handbill
- ~ 2000 School Professional Development Plan
- ~ December 1999 School Goal Setting Document for grant
- ~ March 2000 Benchmark Progress Report
- ~ June 2000 Benchmark Progress Report
- ~ May 2000 Coach e-mail
- ~ February 2001 Inquiry Question Report
- ~ CIG Minutes, 2000-01 School Year
- ~ School Improvement Plan 2000-2001
- ~ Notes from series of data meetings in Spring 2001
- ~ Freshman Intensive Course Listing
- ~ Teacher reflections from June - October 2001
- ~ Spring Forum presentation, 2001
- ~ 2002 Professional Development Plan

Thoreau – Documents Reviewed from the Implementation Phase

- ~ School Improvement Plan 2002-2005
- ~ Professional Development Plan, 2002
- ~ CIG Minutes, 1999-2000
- ~ Documentation Work Day Agenda, March 2000
- ~ Coach Notes, 2000
- ~ CIG Report, June 2000

APPENDIX D

Coding charts for Thoreau High School - Implementation Phase

<i>Evidence of Personal Mastery</i>	
	teachers participating in CIG and individual inquiries {conclusion based on multiple docs}
	Describes teachers as life-long learners responsible to meet student needs {SIP 2002, B; p 7}
	Every teacher indicates a change in practice towards “best practice” {Coach notes, 2001}
	Teachers note changing and rethinking their own practice due to CIG discussions of practice of others even in different subject areas {Coach notes, 2000, 2001}
<i>Evidence of Mental Models</i>	
	student focus taking hold; all inquiries on improving student learning {CIG report, 99-00; Coach report, 7 Dec 99}
	School Leadership Team developed to be more representative of staff {Coach notes, 15 Oct 99}
	teachers have become concerned about framing criteria for students ahead of time {Coach report, 7 Dec 99}
	Describes teachers as life-long learners responsible to meet student needs {SIP 2002, B; p 7}
	“On the whole school level, I am more sensitized to the perspective of the ‘barrier people.’ Perhaps if we are more mindful in meeting their learning needs there won’t be so much resistance or unwillingness to be open.” {Teacher D, Network 2000}
	“...opened up to me was listening and questioning. ... But what I learned goes beyond facilitating with CI members. These techniques & skills – and I have a long way to go – will help me in the classroom to connect with students and also to connect with colleagues. Thoughts now embedded in me: Listen for openings. Use these openings to further communication and get at what I really want to know or want them to think about. {Teacher E, Network 2000}
<i>Evidence of Team Learning</i>	
	increase in staff #'s in CIG from 5 to 12 regular members {CIG report, 99-00}
	Tuning Protocols used throughout year in CIG for student assignments, projects, rubrics {CIG documents, 00-01}
	Attempts to develop facilitation skills with more CIG members {CIG notes, 99-00}
	Collaboration is part of professional development process {SIP 2002, G, p. 57}
	Informal collaboration on curriculum design annually {SIP 2002, C; p. 18}
	Sharing of Fall Forum sessions by attendees w/CIG {CIG minutes, 1999-00}
	All staff school-wide focus on reading with professional development efforts {Professional Development Plan, 2002}

<i>Evidence of Shared Vision</i>	
	school-wide goals, writing rubric; whole staff professional development {CIG report, 99-00}
	Mission states a collective responsibility of all stakeholders as responsible for learning {SIP 2002, A; p. 6}
	Informal collaboration on curriculum design annually {SIP 2002, C; p. 18}
<i>Evidence of Systems Thinking</i>	
	planning for coherence in grant goals, local learning goals, 10 CP, PBA goals {CIG report, 99-00}
	school-wide goals, writing rubric; whole staff professional development {CIG report, 99-00}
	Essential Questions: How much (less) is more? Can/Will <u>ALL</u> students learn? {Spring Forum Presentation, 99-00}
	Considering how to connect CIG & School Leadership Team (SLT) when teachers don't know CIG language {Coach notes, 15 Oct 99}
	Graphic to show relationship of SLT with goals, faculty, climate {Spring Forum, 2000}
	Student data, teacher interest/data, administration observation all determine professional development needs {SIP 2002, H; p. 57}
	Student survey of study strategies {SIP 2002, M; Appendix E}
	CIG Members see new School Leadership Team (SLT) [developed at Network 99] as being more representative for making school decisions {Coach Notes, 2000}
	Describes school as learning organization in Professional Development Plan {SIP 2002, F, p. 56}

<i>Evidence of Collaborative Inquiry</i>	
	Yes, bimonthly meetings; connect individual questions with group question {CIG report, 99-00}
	All CIG members not new to group completed an inquiry into their classroom {CIG report, 99-00}
	*Note that doing collaborative inquiry is evidence of all the other elements in the framework
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	Professional Development in 99-00 is question driven {CIG report, 99-00; Staff Newsletter, 99-00, Issue 15}
	Documentation Work Day organized around questions {Work Day Agenda, Mar 2000}
<i>Evidence of Using Data for decision-making</i>	
	Study of freshmen clustering to determine use {SIP 2002, I, p. 59}
	Planned analysis of data from first 2 years of plan for plan revision {SIP 2002, J; p. 59}

	Student survey of study strategies {SIP 2002, M; App E}
	Data focused with various school-wide and classroom assessments {SIP 2002, D; p. 19}
	Documentation Work Day to evaluate PBA & IESN goals {Documentation Work Day Agenda, Mar 2000}
<i>Evidence of Reflecting</i>	
	CIG consider how to connect CIG & SLT when teachers don't know CIG language {Coach notes, 15 Oct 99}
	Social studies teachers has students reflect on performance and reflects on those to improve practice {Teacher interview, 2001}
	Revising curriculum and rubrics over years {Teacher interviews, 2001}
<i>Evidence of Sharing / Public Exhibition of Knowledge</i>	
	Spring Forum present, 2000; Spring Forum present, 2001 {IESN records}
	8 of 11 teachers provide projects/exhibitions for students {CIG report, 99-00}
	Benchmark report for reform documentation {Benchmark report, 99-00; Coach report, 7 Dec 99}

<i>Evidence of Collaborative Structures</i>	
	CIG meeting time was outside of school time with stipend (from grant); no school time support
	Day in March dedicated to collecting together documentation of goal attainment {Agenda, 10 Mar 00}
	All in-service days dedicated to reading and study skills {Prof Dev Plan, 2002}
	Teachers note that they are overburdened with paperwork making attention to this work difficult {Coach Notes, Dec 2001}
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	principal and Dean of Students are members of CIG group {CIG report, 99-00} Dean of students an important ally {Coach report, 7 Dec 99}
	allows distributed leadership; teachers decide use of PBA {conclusion from multiple documents}
	Prof Dev Plan funds are just those from state funding {Professional Development Plan, 2002}
<i>Evidence of Relational Integrity</i>	
	Tuning Protocols used throughout year in CIG for student assignments, projects, rubrics {CIG documents, 00-01; Coach reports, 99-00}
	Action Plan includes groups meeting to share how they are implementing reading strategies in content area {SIP 2002, (E, p. 45)}

	Survey of weak areas {SIP, L; Appendix D} {most weak area comments detail a deficit in students}
	Shadowing each other with shared written reflections {CIG minutes & copies of reflections, 99-00}
<i>Evidence of Enablers</i>	
	“Being involved with the network is vitally important to our sustained effort. The funding, events, and the collaboration with other schools keeps us honest and challenged.” {CIG report, 99-00}
	“Having an external coach is vital to our growth. She has kept us thinking.” {CIG report, 99-00}
	coach observation/shadowing {CIG notes, 99-00}
	Attended every network, spring forum, and grant sponsored event {IESN records}
	School reform/CIG coach visits twice monthly

APPENDIX E

Coding charts for Pierce High School - Implementation Phase

<i>Evidence of Personal Mastery</i>	
	professional development component in every strategy spoke to need to learn, but mostly technical aspect of component {2000-2001 School Improvement Plan (SIP) includes timeline}
	“using improved rubrics and more of them; using student feedback to change and improve project assignments; using student data (project and quiz scores) in determining project scope and sequence” {Response by Peter to “How has your practice changed?”; 2001 interview}
	“The Collaborative Inquiry Group has developed a supportive, trusting relationship through their experiences this year. Each member has a greater understanding of the interdependent nature of curriculum, instruction, and assessment and has worked to incorporate effective strategies in the classroom. Student response has been positive and has affirmed our belief in our work with standards, rubrics, and student ownership of the learning process. In the future, we want to continue working toward achieving this goal more fully within our own classrooms as well as extending the ideas to other staff members so that our work will eventually have more of an impact on the school as a whole.” {June 2000 Benchmark Progress Report}
	“ CIG teachers feel that they also have a better understanding of standards and authentic assessment. Experimenting with rubrics has allowed teachers to examine closely the objectives of their courses, their projects, and various assignments. While the “changing” status of state standards has been frustrating, we have begun work on aligning courses with the most current standards documents. Often this has been an affirmation of our curriculum and teacher practice as we have found that the standards are already reflected in most of what we do. ” {June 2000 Benchmark Progress Report}
<i>Evidence of Mental Models</i>	
	“The Collaborative Inquiry Group has developed a supportive, trusting relationship through their experiences this year. Each member has a greater understanding of the interdependent nature of curriculum, instruction, and assessment and has worked to incorporate effective strategies in the classroom. Student response has been positive and has affirmed our belief in our work with standards, rubrics, and student ownership of the learning process. In the future, we want to continue working toward achieving this goal more fully within our own classrooms as well as extending the ideas to other staff members so that our work will eventually have more of an impact on the school as a whole.” {June 2000 Benchmark Progress Report}
<i>Evidence of Team Learning</i>	
	writes of collaboration and the tool “Written Conversation” which was used to assist with communication among team members {Teacher reflection of June-October 2001}
	Study group with the Instructional Leadership Team (ILT) {Teacher reflection, June-October 01}
	Attempt to bring discussion from Network as to “how do we know students are learning” to dept’s.; but notes not rich conversations as too much fear; defensive {Teacher reflection of June-Oct 2001}

	<p>“The Collaborative Inquiry Group has developed a supportive, trusting relationship through their experiences this year. Each member has a greater understanding of the interdependent nature of curriculum, instruction, and assessment and has worked to incorporate effective strategies in the classroom. Student response has been positive and has affirmed our belief in our work with standards, rubrics, and student ownership of the learning process. In the future, we want to continue working toward achieving this goal more fully within our own classrooms as well as extending the ideas to other staff members so that our work will eventually have more of an impact on the school as a whole.” {June 2000 Benchmark Progress Report}</p>
	<p>“Some teachers have visited or are planning to visit each others’ classrooms.” {March 2000 Progress Report}</p>
	<p>“The professional development program at ... will provide our staff with the resources and experiences essential to meeting the diverse needs within our learning community. Our program will be site-based and collaborative by involving staff in the decision making process regarding their professional growth experiences. Peer coaching and teacher as trainer model will be the primary sources of facilitation.” {2002 Professional Development Plan}</p>
	<p>Learning groups for all staff; student portfolio training for all staff {2002 Prof Dev Plan}</p>
<p><i>Evidence of Shared Vision</i></p>	
	<p>Student afternoon performances of music and readings (exhibition of student voice) {Java Jive Handbill & performance notes}</p>
<p><i>Evidence of Systems Thinking</i></p>	
	<p>developing student as independent learner (aspect of student voice) {Biology Goal Setting Sheet}</p>
	<p>Attempt at personalization for students needing additional assistance {Freshman Intensive Course Listing}</p>
	<p>Interest in collaboration indicated in broad way of wanting to increase communication with all stakeholders {2000-2001 School Improvement Plan (SIP) includes timeline}</p>
	<p>Student focus on learning, though in terms of meeting graduation requirements only {2000-2001 School Improvement Plan (SIP)}</p>
	<p>strategies in plan are varied and show dimensions, but strategies with other stakeholders pretty much one-way – either telling about what is happening in school or getting them to help school do what it wants {2000-2001 School Improvement Plan (SIP)}</p>
	<p>looking for question to answer that provides information to benefit whole school; little discussion or inquiry into personal practice this year {CIG minutes, 2000-01 school year}</p>
	<p>General concern whether meeting just for grant; not seeing how to connect with school-wide reform efforts {CIG minutes, 2000-01 school year}</p>

<p>“The end-of-year student surveys provided clear evidence that students do understand academic standards. The surveys also included references to specific measures within classes that allowed students to demonstrate authentically that they had achieved, or at least made progress toward achieving, these standards. In these cases, students were aware of what they still needed to learn or to do to achieve unmet standards. Teachers referred to the standards in lessons, posted them in their classrooms, and incorporated them in assignment sheets and rubrics, all of which helped students reach their current levels of understanding and performance.” {June 2000 Benchmark Progress Report}</p>
<p>“We also started to discuss our work in relation to our upcoming NCA/PBA study to see if and in what ways these could be connected. As the NCA/PBA plan must be linked to student achievement, this may become a greater focus for us next year.” {June 2000 Benchmark Progress Report; supported by coach e-mail comments, May 2000}</p>
<p>Setting goal of better understanding inter-relatedness of instruction, curriculum and assessment for student learning. {December 1999 Goal Setting Document for Grant}</p>

<p><i>Evidence of Collaborative Inquiry</i></p>	
	<p>Study group with the Instructional Leadership Team (ILT) {Teacher reflection of June-Oct 2001}</p>
	<p>Interest in collaboration indicated in broad way of wanting to increase communication with all stakeholders {2000-2001 School Improvement Plan incl timeline}</p>
	<p>“Foster a professional learning community that enables continuous and collaborative professional growth” {from goals in 2002 Professional Development Plan}</p>
	<p>*Note that doing collaborative inquiry is evidence of all the other elements in the framework</p>
<p><i>Evidence of Inquiry Stance / Asking Questions</i></p>	
	<p>Plan to compare what happens to current plan {2000-2001 School Improvement Plan (SIP)}</p>
	<p>professional development component in every strategy spoke to need to learn, but mostly technical aspect of component {2000-2001 SIP incl timeline & development plan}</p>
	<p>looking for question to answer that provides information to benefit whole school; little discussion or inquiry into personal practice this year {CIG minutes, 2000-01 school year}</p>
	<p>“Teachers are developing questions to ask students in order to find out if they are learning or not and how/why/why not.” {March 2000 Progress Report}</p>
	<p>“CIG teachers feel that they also have a better understanding of standards and authentic assessment. Experimenting with rubrics has allowed teachers to examine closely the objectives of their courses, their projects, and various assignments. While the “changing” status of state standards has been frustrating, we have begun work on aligning courses with the most current standards documents. Often this has been an affirmation of our curriculum and teacher practice as we have found that the standards are already reflected in most of what we do.” {June 2000 Benchmark Progress Report}</p>
	<p>Asking questions to collect data about the effectiveness of intensive freshman program, as part of report on “What is the State of our School?” {Inquiry Question, modified per document, Feb 01}</p>

<i>Evidence of Using Data for decision-making</i>	
	<p>“The end-of-year student surveys provided clear evidence that students do understand academic standards. The surveys also included references to specific measures within classes that allowed students to demonstrate authentically that they had achieved, or at least made progress toward achieving, these standards. In these cases, students were aware of what they still needed to learn or to do to achieve unmet standards. Teachers referred to the standards in lessons, posted them in their classrooms, and incorporated them in assignment sheets and rubrics, all of which helped students reach their current levels of understanding and performance.” {June 2000 Benchmark Progress Report}</p>
	<p>Record of collecting data from multiple sources to evaluate school goals for grant; sources such as: ~CIG minutes ~Teacher reflections ~Classroom plans ~Student surveys ~Pre/post tests ~Assessments/rubrics ~Teacher interviews ~Student Assessments ~Student Work Samples {Dec 1999, Mar 2000 Progress Report}</p>
	<p>school collecting data; but data often incomplete, so analysis is challenging {Notes from series of data meetings in Spring 2001}</p>
	<p>Found data to track students in Intensive Freshman courses to be incomplete {Coach notes, Coach mtg minutes, 4 May 2001}</p>
	<p>Asking questions to collect data about the effectiveness of intensive freshman program, as part of report on “What is the State of our School?” {Inquiry Question, modified per document, Feb 2001}</p>
	<p>Spring Forum presentations in April 2001 were on how they collected and analyzed data and about their Senior Presentations {IESN Spring Forum Schedule; Planning documents, March 2001}</p>
	<p>CIG group does an evaluation of Block Scheduling {1999-00 CIG notes}</p>
	<p>“Additional items for our portfolio were collected and discussed; data included Peter’s survey, Tonya’s reflective journal handout, and Barbara’s pre/post test, student reflections, and end-of-semester survey.” {March 14, 2000 CIG Minutes}</p>
	<p>[Pierce CIG] would like a state of the school using data – coming from an experience at fall forum. We especially want to look at how school has changed in the past five years: Mobility, achievement, socio-economic, etc. To start we are going to look at only two classes: intensive math, intensive English. These are freshman classes that are voluntary, though identified 8th graders are suggested to take. So want to look at what has happened with those identified who took it and those identified who did not take. The end result is support to remove the voluntary option for the class. {Minutes, Coach mtg; 15 Feb 2001}</p>
	<p>[Pierce CIG] created a survey on student responsibility (to get student and teacher perspectives) and also included questions on best practices. Set it up to be completed on scantron sheets, so they should be able to easily aggregate the data. {Coach notes, Coach mtg minutes; 4 May 2001}</p>
	<p>Many pockets of information are missing because so little is computerized. {Reference to work collecting data; Minutes, Coach mtg; 15 Feb 2001}</p>

	<p>“I feel students have a much better idea of how projects are going to be graded because they get the detailed rubric in advance. This allows them to concentrate on those areas that will be scored in order to maximize their grade. Informally I have determined that students who maximize their grade through rubric use also are learning the material. This is based on both written and oral quizzes and teacher-student conferences.” {Peter’s answer to interview question, “How do you see student leaning changing because of changes to your practice?”; 2001 }</p>
<p><i>Evidence of Reflecting</i></p>	
	<p>“More teachers are using reflective journals; some who have used them in the past are changing the format or frequency of use.</p> <ul style="list-style-type: none"> - Journals emphasize learning by having students think about what they’ve done. - Journals add another element to personalization. - Journals help students make connections between their learnings and life. - Journals can be a helpful tool in dealing with student and parent questions about progress.” <p>{Mar 2000 Progress Report}</p>
	<p>“I feel students have a much better idea of how projects are going to be graded because they get the detailed rubric in advance. This allows them to concentrate on those areas that will be scored in order to maximize their grade. Informally I have determined that students who maximize their grade through rubric use also are learning the material. This is based on both written and oral quizzes and teacher-student conferences.” {Peter’s answer to interview question, “How do you see student leaning changing because of changes to your practice?”; 2001 }</p>
	<p>The student feedback I get is vital in continuing to change and grow my curriculum. I gather data relating to: project topics, length, group vs. individual work, relevance to course and to real world, and I also ask for general comments on how the project or course might be improved. Changes I have made based on the data include more individual projects, less emphasis on TV commercial projects, and increased use of rubrics.</p> <p>“Since most of my students repeat the class for successive semesters, I have an excellent opportunity to use them as a control group. The new students provide me with “first time” data that I can judge against the students who have been in the class for several semesters.</p> <p>“I need to continue working toward additional projects in the radio portion of the class. That has been a difficult task since there are not multiple work stations for group of students like in television.”</p> <p>{Peter’s response to interview question: “Discuss the connection(s) you see between your teaching practices and the information you gather about students and their learning?”; 2001 }</p>
	<p>Few references to teachers reflecting</p>
<p><i>Evidence of Sharing / Public Exhibition of Knowledge</i></p>	
	<p>Student afternoon performances of music and readings (exhibition of student voice) {Java Jive Handbill & performance notes}</p>
	<p>Attempt to bring discussion from Network as to “how do we know students are learning” to dept’s.; but notes not rich conversations as too much fear; defensive {Teacher reflection of June-October 2001 }</p>
	<p>“Some teachers have visited or are planning to visit each others’ classrooms.” {Mar 2000 Progress Report}</p>
	<p>Two teachers did peer observations including talking with students; shared experience at CIG with suggestions for improvement {1999-00 CIG minutes}</p>

Spring Forum presentations in April 2001 were on how they collected and analyzed data and about their Senior Presentations {IESN Spring Forum Schedule; Planning documents, March 2001}

<i>Evidence of Collaborative Structures</i>
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Learning groups to meet 10 times during the year after school in time that is set aside for department and faculty meetings. {2002 Professional Development Plan}
CIG meetings were mostly after school, though part of the meeting was during contracted time
All in-service days dedicated to reading and study skills {Prof Dev Plan, 2002}
Teachers note that they are overburdened with paperwork making attention to this work difficult {Coach Notes, Dec 2001}

<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>
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Stance of new administration was welcome and collaborative; professional learning comm language {Teacher reflection of June-October 2001}
Learning groups for all staff; student portfolio training for all staff {2002 Prof Dev Plan}
extended contracts for Instructional Leadership Team (five days) and all teachers (two days) for prof dev opportunities {2002 Prof Dev Plan}
Resources for prof dev outlined are mostly from soft money; only \$3,000 of \$26,000 are school funds {2002 Prof Dev Plan}

<i>Evidence of Relational Integrity</i>
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Attempt to bring discussion from Network as to “how do we know students are learning” to dept’s.; but notes not rich conversations as too much fear; defensive {Teacher reflection of June-October 2001}
Study group with the Instructional Leadership Team (ILT) {Teacher reflection of June-Oct 2001}
No clear direction on supporting or challenging activities {2000-2001 School Improvement Plan}
Two teachers did peer observations including talking with students; shared experience at CIG {1999-00 CIG minutes}

<i>Evidence of Enablers</i>

Attempt to bring discussion from Network as to “how do we know students are learning” to dept’s.; but notes not rich conversations as too much fear; defensive {Teacher reflection of June-Oct 2001}
Attendance at Fall Forum 99 by two members of CIG who reported back on their learning {1999-00 CIG Minutes}
School reform/CIG coach attending bimonthly
Attendance at Network, Spring Forum, and most grant-related sessions {IESN records}
Critical Friend Visit to another Network school {IESN records}

APPENDIX F

Coding charts for Dewey 1-8 School - Implementation Phase

<i>Evidence of Personal Mastery</i>	
	<p>“Though I am teaching in an environment that has made revolutionary changes in structure – multi-age, no grades, portfolio assessment, collaborative decision-making – my personal teaching practice has changed at a more evolutionary pace. The biggest change – what was new has become familiar. The use of rubrics to evaluate student work, conferencing with students about how they can move to the next level (or pick up the pieces), managing the learning environment to take advantage of the resources we all bring to the classroom... – all indicate that change is occurring in my teaching.” {George, Interview 2001 }</p>
	<p>“I’ve been more focused on Benchmarks when planning lessons. The result for students is they hear what mastery level is more often; it’s incorporated into their learning more. Everyone is working toward the same standards.” {Teacher O, Interview 2001 }</p>
	<p>“I have become more confident in our approach to learning after witnessing 4 groups of eighth graders graduating. This in turn has allowed me to relax more and be comfortable. However, I want to “toughen” up my math class and see if I can help students put more rigor into it. Having gained more confidence and developed a more relaxed approach, I am able to look for and see, more of the “details” of students and their learning.” {Joe, Interview 2001 }</p>
	<p>“Teaching style is different; kids drive curriculum. I come in with set plans, it gets driven another way and ends up better.” ... more patient ... more observant ... more collaboration ... better listener {Dan, Interview 2002, response to “How have you changed?”}</p>
<i>Evidence of Mental Models</i>	
	<p>New Teacher Expectations based in vision of school {New Teacher Expect doc}</p>
	<p>“The teaching process begins with the learning process of students at the forefront. The teacher is secondary, operating as coach. Student growth and learning is primary.” {George & Joe, Feb 1999 interview}</p>
	<p>The formula for effective change can be shown as follows: Effective Change = (Driving Philosophical Outcomes + Support Agents + Acceptable Teaching and Student Management Skills > Administrative Drain + Other Negative Forces) {George, Interview 2001 }</p>
	<p>“Having students at different grade levels and ability levels made me more aware of some kids learning in a fragmented manner. Some kids had information, but because of “gaps” they were unable to apply it.” {Teacher S, Interview 2001 }</p>

<i>Evidence of Team Learning</i>	
	One hour staff meetings held 2 -3 times per week to discuss school-wide issues, student development, and engage in professional development. {CIG report, 2000; Coach notes, 2001}
	“Since staff meetings, collaborative inquiry, and peer coaching are regularly scheduled, on-going events continuous learning is the practice of [Dewey].” {Professional Development Plan, 2002}
	“What is wonderful is that I am not alone in these pursuits. Teaching colleagues, parents, professional contacts, and even the students are helping me to continue to ask questions and adjust my teaching.” {George, Interview 2001}
	George notes in an interview in 2002 that his working with his teaching partner caused him to do things he never would have done without her. He questions how he will work in a meaningful way with a new person, as his partner is leaving. {Coach notes from interview, 2002}
	Dan notes in an interview that other teachers are “always” good mentors giving support for feelings and offering ideas of how they dealt with situations. {Dan, Interview 2002, in his second year with Dewey}
<i>Evidence of Shared Vision</i>	
	Mission developed by staff, parents, students – CARING [Challenging, Accountable, Reflective, Informed, Nurturing, Global] community {School Handbook, 2000, 2002; SIP, 2002}
	Town hall meeting with students, parents, and staff to consider what part of vision is becoming reality {Summary of indicators discussed, May 2001}
	“Maintain and improve the collaborative learning community at Dewey” using measures from student, parent, staff, student learning, and safe learning environment {School Improvement Plan, 2002}
	In their “Teacher I Want to Be” essays, every teacher indicates a respect for all and a focus on student learning “put students first” “believes every child can and will learn” “each child to feel loved, important, and safe” {School Improvement Plan, 2002}
	Restitution as the approach for “discipline” within the school. All teachers are educated about its use, adhere to it, teach it to students. Parents are also educated through formal sessions and informal interactions. {School Improvement Plan, 2002; Coach notes, 2001}
	Adoption of a set of community beliefs developed by students {School Improvement Plan, 2002}
<i>Evidence of Systems Thinking</i>	
	“PBA Goal #1: A safe, caring environment nurtures self-directed, self-monitoring learners.” “PBA Goal#2: Active involvement by informed members of Dewey community fosters continual student progress.” {PBA Plan, 2000}
	Monthly site-based team meetings with parent co-convenor to develop resources (e.g. Handbook) and activities (e.g. town meetings, spring program) for Dewey {IESN End of Year Benchmark Report, 2000}

	<p>“To establish a task force for forward planning. ... To have a governance/decision making structure to include parental input and the designing of curriculum locally that meet Indiana Standards. {List of requirements to Board for continuation of Dewey, 2002}</p>
	<p>Student progress reports that are developmental, showing growth in an area. {Progress Reports, 2002; School Improvement Plan, 2002}</p>
	<p>Parents support Dewey financially & logistically; part of site-based decision-making; mentor families new to Dewey {School Improvement Plan, 2002}</p>
	<p>Constructivist focus – learning is “function of the content, the context, the activity of the learner, and perhaps most importantly, the goals of the learner.” {School Improvement Plan, 2002}</p>
	<p>“[Dewey] adopted portfolios as <u>the</u> form of assessment. Because we know each student better we know the needs of individuals. Kids need to know where they are and where they’re going - rubrics and portfolios have done that.” {Teachers P&Q, Interview 2001 response to “Why have you made these changes?”}</p>
	<p>“I feel a responsibility to the whole Discovery community.” {Joe, Interview 2001 response to “Why have you made these changes?”}</p>
	<p>“Because we have those “ultimate” standards for all students in the Benchmark books.” {Teacher O, Interview 2001 response to “Why have you made these changes?”}</p>
	<p>During discussion of student all teachers knew him and were able to offer input {Coach notes, 24 May 2001}</p>

<p><i>Evidence of Collaborative Inquiry</i></p>	
	<p>“To establish a three-year plan that endorses standards based instruction, collaborative inquiry, and transformational leadership.” {List of requirements to Board for continuation of Dewey, 2002}</p>
	<p>“has engaged in collaborative inquiry for nearly six years” and is strategy for professional development {Professional Development Plan, 2002; CIG report, 2000, 2001}</p>
<p><i>Evidence of Inquiry Stance / Asking Questions</i></p>	
	<p>“Curriculum is viewed as a basis for inquiry by teachers and children investigating big ideas.” {School Improvement Plan, 2002}</p>
	<p>“What is wonderful is that I am not alone in these pursuits. Teaching colleagues, parents, professional contacts, and even the students are helping me to continue to ask questions and adjust my teaching.” {George, Interview 2001}</p>
	<p>“There is a strong connection – all the day to day questions I struggle with are generated from the work and behavior I see in students.” {George, Interview 2001 response to connection between data and practice}</p>
	<p>“Teachers are developing questions to ask students in order to find out if they are learning or not and how/why/why not.” {March 2000 Progress Report}</p>

<i>Evidence of Using Data for decision-making</i>	
	Use of school-developed benchmarks, tied to Indiana Standards, for student evaluation and as data for internal school performance review and school portfolio {Benchmark documents; student performance database; 1998-2002 years}
	Narrative “report card” developed around benchmarks, all grade levels {Student Assessment Forms, 2002}
	“PBA Goal#4: A systemic assessment process accurately monitors student progress.” {PBA Plan, 2000}
	Annual surveys to students and staff of school climate, to parents of satisfaction. {Copies of surveys & results, 1998-2002}
	Annual survey results collated and evaluated over time {Tally reports, 1998-2002; Coach notes, 2001, 2002}
	Benchmarks for success in data collection from surveys and student assessment forms. {School Improvement Plan, 1999-2000}
	Assessment of ISTEP results with identification of strengths and weaknesses {Written assessment of 3 rd grade test, 2000}
	Analysis of ISTEP and Terra Nova scores for 3 rd - 8 th grade students {Analysis for SIP, 2002}
	Survey of students who graduated from Dewey {Survey Response Summary, October 2002}
	Anecdotal records are kept on each student’s reading progress in youngest house. {School Improvement Plan, 2002}
	[Dewey] has been collecting data in various forms over the year to see what provides support for evidence of student learning. Their use of a continuum and benchmarks for the reporting mechanism has created a challenge of how not only to record, but also analyze, data to draw whole school conclusions. {Coach notes, Coach mtg minutes, 4 May 2001}
	“Currently teachers are studying NWEA test results in order to set class goals for improvement.” {School Improvement Plan, 2002}
	“[S]tudent surveys have also been conducted to identify specific student behaviors that might affect student achievement. Results of these surveys are then compared with standardized test scores in order to identify correlations that may exist.” {School Improvement Plan, 2002; Correlations in Appendix of SIP}
	Shows an understanding of need to consider “stable population” and cohort populations in analyzing data from year to year {School Improvement Plan, 2002; all over time analyses}
	Attempt to use a wide variety of measures beyond standardized scores {School Improvement Plan, 2002}
	“Student work drives our practices and how and what we teach. This is a continual process that changes all the time, so we rarely teach the same way twice.” {Teachers P&Q, Interview 2001 in response to connection between data and practice}
	Benchmark writing samples are gathered regularly throughout the year and assessed with the rubric. {School Improvement Plan, 2002}

<i>Evidence of Reflecting</i>	
	Review of various surveys - parent, staff, student, graduate to consider implications for curriculum and environment at Dewey
	“Frequently, information gained from student conferencing or assessment completely changes activities or the pace of presentations previously planned.” {Teacher S, Interview 2001}
	Summary of results in SIP shows an analysis of both strengths and weaknesses. {School Improvement Plan, 2002}
	“There is a strong connection – all the day to day questions I struggle with are generated from the work and behavior I see in students.” {George, Interview 2001 response to connection between data and practice}
<i>Evidence of Sharing / Public Exhibition of Knowledge</i>	
	Use of school-developed benchmarks, tied to Indiana Standards, for student evaluation and as data for internal school performance review and school portfolio {Benchmark documents; student performance database; 1998-2002 years}
	Student portfolios, student-led conferences, 8 th grade exhibitions for graduating students {Portfolio Night, 2002; 8 th grade exhibition list, 2001; CIG minutes, 2001; Dewey report to school board}
	“Developing Peer Coaching” Spring Forum Presentation {Presentation handout; IESN Spring Forum 2001 Schedule}
	Professional development activity as part of professional development plan {Professional Development Plan, 2002}

<i>Evidence of Collaborative Structures</i>	
	Dedicated one hour at beginning of work day before students arrived, two to three times per week {Coach notes, 2001, 2002}
	Most teaching partners have a common work time
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	“At Dewey the principal meets with teachers weekly to discuss issues that pertain to the leadership of the school. ... The principal also meet regularly during the year with parents and teachers in site-based team meetings and town hall meetings....” {School Improvement Plan, 2002}
<i>Evidence of Relational Integrity</i>	
	Peer Coaching in 2000-2001, 2001-2002 {Peer Coaching First Observations sheet, 2001; CIG & Coach notes, 2001; Prof Dev Plan, 2002}
	Town meetings three - four times per year with students, staff, parents to discuss Dewey environment and plan for future events {IESN Benchmark Report, 2000; Coach notes, 2000,2001, 2002}

	<p>“Articulate and share personal theories of learning” – strategy to meet goal two of SIP {School Improvement Plan, 2002}</p>
<p><i>Evidence of Enablers</i></p>	
	<p>Contracted with school coach for additional work in developing school improvement plan {Letter from principal, 2002}</p>
	<p>School reform/CIG coach twice monthly</p>
	<p>Attended network every summer offered {IESN records}</p>
	<p>Attended spring forum every summer offered {IESN records}</p>

APPENDIX G

Coding charts for Emerson K-8 School - Implementation Phase

<i>Evidence of Personal Mastery</i>	
	Teachers changing their instruction to better meet needs of students {Coach report, May 2001}
	Writing Project for all teachers to improve instruction in writing {Coach notes, Coach mtg minutes, 4 May 2001}
<i>Evidence of Mental Models</i>	
	Developed parent brochure to introduce school's vision {Coach report, May 2001}
	Questioning how to get people to double-check their assumptions {School plan, 2000-01}
	CI is taxing work, but paradigm shifting {CIG report, 15 Mar 2000}
	Articulate standards for all members of community to develop new conception {Student, Parent, Teacher Standards Document, 2000}
	"I am also going to make a conscious effort to seek out differences in things and make connections to them so that I may understand for myself more." {teacher B, Network, 2000}
<i>Evidence of Team Learning</i>	
	Sharing of student performance tasks for feedback {CIG report, 15 Mar 2000}
	CIG developed 2-day pd workshop on performance tasks for staff {CIG report, 15 Mar 2000}
<i>Evidence of Shared Vision</i>	
	Prof Dev Committee developed plan to clarify vision {Coach report, May 2001}
	Developing whole school writing developmental continuum {Data Days notes, 2001}
	Town hall meeting with observation by larger community members {CIG report, 15 Mar 2000}
	Realized need for common understanding of assessment and internalization of assessment practices {CIG report, 15 Mar 2000}
	Developed "Community Ethos" and "Community Bill of Rights" {Ethos & Rights Doc}
<i>Evidence of Systems Thinking</i>	
	Considering relationship of CIG & Prof Dev Team {Data Days notes, 2001}
	Realization the curriculum not aligned with standards {Data Days notes, 2001}
	Asking questions about role of CIG in supporting whole school efforts {School plan for 2000-01}
	Connect teaching and learning expectations to student portfolios {School plan, 2000-01}
	Concern over CIG being perceived as clique & trying to find ways to extend conversation. {CIG report, 15 Mar 2000}

	Coherence with performance tasks at multiple levels and school-wide assessment standards and rubric {CIG report, 15 Mar 2000}
	Developed “compact” between parents, students, and teachers each with their own responsibilities {Compact for 99-00}
	Developed standards for parents, students, and teachers connected to the CES 10 CP {Student, Parent, Teacher Standards Document, 2000}
	Environmental mission is vertically and horizontally embedded in classes; Environmental Essential Questions for every grade level {Vision and Goals for Env Ed doc, Mar 2000}
	“I will give students more voice and choice in their inquiry in the classroom; help support my colleagues’ understanding of the 10 common principles and how they affect our environment...” {teacher A, Network, 2000}

<i>Evidence of Collaborative Inquiry</i>	
	Bimonthly CIG meetings {Coach report, May 01}
	Collaborative inquiry with a school-wide focus on writing {Coach notes, Coach mtg minutes; 15 Feb 2001}
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	Facilitating inquiry is a teacher standard {Student, Parent, Teacher Standards Document, 2000}
	School promotes inquiry and life-long learning {School brochure, Aug 2000}
	Curriculum designed around essential questions {Essential Questions document}
<i>Evidence of Using Data for decision-making</i>	
	Survey on use of student portfolios {Sch Portfolio, 2000-01}
	Analysis of changing student population, its impacts on tchg, lrng, and future instruc. {Sch Portfolio, 2000-01; Data Days notes, 2001}
	Realize the importance of documenting own learning to deepen that learning, be accountable, convince others of work {CIG report, 15 Mar 2000}
	“Thinking like an assessor” survey of teachers - baseline data {CIG Survey, Jan 2000}
	“Documenting and Dialoguing about Reflective Practice at Cold Spring School” {2001 Spring Forum presentation title/handout}
	Struggled to access raw test score data {School Portfolio, 2000-01}
	Plan to include similar data pieces each year in student portfolio to allow for longitudinal analysis {School plan, 2000-01}
	Terra Nova data evaluated {Terra Nova analysis doc, Fall 2001}
	Collected baseline data on practice for CIG, 1999-2000 {Baseline Data Graph}

	<p>Plus we struggled with data. We found that only 1/3 of students stay over the whole time and that we had a greater amount of lower socio-economic and more African Americans We tried to look at standardized test scores over time, but it did not show anything, which brought up what we should we look at, what will tell us about and show us growth.</p> <p>We decided to collect 3 samples of student writing over time, which brought up questions of which work – published, draft, etc. We decided to compare them to our continuum of development. We came up with the idea of posting the development continuum on wall in hall and including student samples for each “stage” in the continuum.</p> <p>The first samples showed that development lower than expected which is leading to hard questions {Minutes, Coach mtg, 15 Feb 2001 }</p>
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Evidence of Reflecting

	Asking questions about role of CIG in supporting whole school efforts {School plan for 2000-01 }
	Redesign of district writing rubric to provide better info to student and parents {CIG report, 15 Mar 2000 }
	Assessed impact of Task Performance WS {WS Evaluation Doc, Jan 2000 & Mar 2000 }
	“Documenting and Dialoguing about Reflective Practice at Cold Spring School” {2001 Spring Forum presentation title/handout }

Evidence of Sharing / Public Exhibition of Knowledge

	Spring Forum presentation, 2000; Spring Forum presentation, 2001 {IESN Spring Forum Agenda; Coach report, May 2001 }
	Town hall meeting observed by community members and discussion with teachers about schools {CIG report, 15 Mar 2000 }

Evidence of Collaborative Structures

	CIG meeting outside of school time
	Regular school days set aside for writing project {Coach notes, Coach mtg minutes, 4 May 2001 }

Evidence of Administration supporting collaborative inquiry and five disciplines

	Emerson is a partner school with local university; teachers can meet when pre-service cohort is student teaching {personal knowledge; school brochure }
	Paid for IESN membership for year after grant expired {IESN membership application, 2002 }
	Involvement in Writing Project which included sub costs for all teachers to have ten days of professional development {Coach notes, Coach mtg minutes, 4 May 2001 }

<i>Evidence of Relational Integrity</i>	
<i>Evidence of Enablers</i>	
	Coach, outsider, adds an importance to meetings. “The inquiry cycle is slippery. It needs guidance.” {Coach report, May 2001}
	External coach at CIG meetings twice monthly {Coach report, May 2001}
	CIG participated in Network, summer, and all grant sessions {IESN records}
	Hosted critical friends visit {CF visit report, Apr 2002}
	Attended critical friend visit for other network school {CF Visit doc, 2002}
	“It’s comforting to hear the struggles and a-has of others.” {teacher C, Network, 2000}

APPENDIX H

Coding charts for Thoreau High School - Follow-up Phase

(Sample source identifier: 434-465 G1 = lines 434-465 from group 1 interview)

<i>Evidence of Personal Mastery</i>	
	Jill notes decrease in prof. reading; no one to put on pressure or no mechanism [171-177 G1]
	need for structure to do PM; Tom notes he is not doing it without that, not disciplined enough [479-481 G1]
	those involved in Freshman Literacy have improved their own knowledge, particularly the trainers [803-810 G1]
	saw CIG as avenue to develop own practice even when listening to another, but not practicing now [161-173 G2]
	broadening scope of teaching activities for Teresa to G&T and multiple failure tutoring [522-524 G2]
	impact of other things to take time from doing this, though constantly trying to think about implementing new ideas heard [526-532; 545-546 G2]
	describes needing to be “on top of my game” to deal with the variety of needs that show up in Teresa’s classroom [65-69 Teresa 18Jan]
	trying to stay true to best practices, but lack of time and resources [72-77 Teresa 18 Jan]
	Using English writing and literacy lessons she has learned to support such in foreign language class [85-91 Teresa 18 Jan]
	on-going learning through student mentoring – would add to teacher portfolio; [109-111 Teresa 18 Jan]
	also mentoring new teacher [111-114 Teresa 18 Jan]
<i>Evidence of Mental Models</i>	
	shut out of decision-making and school leadership due to different thought process on part of administration [280-302; 404-407 G1]
	climate of obeying commands not collegial decision-making [320-329 G1] (clash of mental models)}
	overall change in model of good teaching from straight rows to group work (but part of larger shift?) [759-772 G2]
<i>Evidence of Team Learning</i>	
	Freshman Literacy as example of school-wide team learning [920 G1] attempt to educate all staff [185-194 G1]; [277-279 G1]; [519-521 G1]; [477-481 G2]

	lesson learned of need for trust in team learning, but not present now with all players [105-108 G1]
	Data workshop, but only small group of teachers and sharing that was to occur did not [190-200 G1; 569-587 G2]
	NCA plan was done in separate pieces, never brought together to whole staff as in the past [226-232 G1]
	Freshman Literacy involves one group of teachers teaching other teachers [815-833 G1]
	at one time had mechanism for sharing prof dev learning with all staff, no longer [826-832 G1]
	attempt at team learning, shared articles with dept chairs, but no follow through on discussing [987-992 G1]
	missed opportunity for team learning with IPFW course on-site, no discussion or application of material by the teachers in the class [1133-1139 G1]
	interview becomes a learning space (esp G2) [405-430 G2] (as excellent example)
<i>Evidence of Shared Vision</i>	
	loss of focus on learning and instruction at department chair meeting [33-35 G1]
	difference between teachers and administrator's experience; no shared values (see themes also) [52-53 G1]; [64-69; 71-79 G1]
	notes that original SV ignored [80-84 G1] though notes in 86 G1 that vision needed to be reviewed for current NCA but wasn't}
	not developing a shared vision [109-111 G1]
	NCA plan was done in separate pieces, never brought together to whole staff as in the past [226-232 G1]
	missing systems view [303-308 G1] lack of "common belief" [320-326 G1]; [389-392 G1]; lack of big, big picture [873-876 G1]
	understanding of need for some group to play role of keeper of vision and coherence [380-388 G1]
	most recent PL 221 goals not shared with staff or developed by whole staff [532-533 G1]
	Lack of buy-in for NCA because all teachers not involved [598-600 G1]
	development of common language between students and all teachers that supports student literacy [533-544 G2]

<i>Evidence of Systems Thinking</i>	
	Freshman Literacy as example of approaching problem systemically [920 G1]
	broad-based decision-making missing; no site-based team [11-26 G1]
	did not involve others (outside of school or all teachers) in NCA plan process [92-95 G1]
	not developing a shared vision [109-111 G1]
	lack of large conceptual view by administration - “band aid approach” [133-141 G1]
	short-term focus, not long-term [145-152 G1] [928-930 G1]
	lack of coherence of efforts such as professional development [204-213; 221-225 G1]
	lack of direct connection to classroom [217-220 G1]
	CIG members considering perspectives of others – other teachers at this point [241-245 G1]
	development of NCA plan was uncoordinated; much frustration, poor facilitation & communication; lack of input; no overall holistic direction [553-586 G1] put in place a change in structure [560-568 G2]
	Lack of buy-in for NCA because all teachers not involved [598-600 G1]
	Scheduling needs assessment done only with staff input [684-699 G1]
	change in purpose of Freshman Cluster identified as undoing coherence originally part of program [778-786 G1]
	at one time had mechanism for sharing prof dev learning with all staff, no longer [826-832 G1]
	desire for coherence and shared vision [1124-1127 G1]
	Teresa supporting new teacher’s consideration of including student input into rubric design (taking multiple perspective evidence) [7-12 G2]
	development of Freshman Literacy based on perceived needs of students [441-445 G2]
	Freshman Literacy as whole staff effort and support [468-476 G2]
	Freshman Literacy seen as school-wide element; not just English classes [495 G2]
	fragmented approach; less involvement by all due to changes in outside forces (e.g. NCA) [556-581 G2]
	realize need for multiple perspectives and understanding of perspectives of others [596-602 G2]
	consideration of larger environment on student learning with project work done in school [784-793 G2]
	Teresa seems to hold a big picture perspective, seeing English writing and literacy as key processes to support in foreign language class [85-91 Teresa 18 Jan]

<i>Evidence of Collaborative Inquiry</i>	
	Identify value of [474-481 G1]
	Teresa using basic process with new teacher in designing rubric; support for including student input [7-12 G2]
	missed by Jack [28 G2]; [by Tom - individual interview]
	identification of need for safe space to accomplish [20-23 G2]
	rare use of protocols [239-241 G2]
	“Collaborative inquiry-esque” work – Teresa working with another teacher to develop materials for classroom [302-305 G2]
	Freshman literacy as similar to CI [see themes list plus 433-440 G2; 803-818 G1]
	Collaboration on Friday’s – component of Freshman literacy that operated in fashion similar to CI meetings [503-514 G2]
	for Teresa, G&T teachers getting together after school, off-site seems to also play a similar function to CI [522-524 G2]
	“Clandestinely” collaborating; more of a support group, than the original intent [54-62 Teresa 18 Jan]
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	Jill still wants to ask “why” but does not see it as valued [303-305 G1]
	examples of stance in the past [404-407 G1]; [448-454 G1]
	comfortable w/questioning [445-448 G1] but not happening now
	teacher using questioning phase w/ stud. exhibitions [300-301 G2]
	on-going learning stance exhibited [333-336 G2]; (and all thru G2)
	Paul (new tchr) exhibits in learning about new dept; supported by former CIG members [358-360 G2]
	asking questions as way of interacting to work with colleagues [379-385 G2]
	Sandy interrogating new techniques as to how to use them in her setting; how to adapt them [526-532 G2]
	fostering in students by asking reflective questions [163-166 Teresa 18 Jan]
<i>Evidence of Using Data for decision-making</i>	
	Data Ladder [190-192 G1]
	Data Ladder Professional Development, but no sharing of info learned by few [560-587 G2]
	<u>not</u> using to determine needs [393-403 G1]

	id need for analysis of data in looking at academies, argued against academies model because no data [418-423 G1]
	needs assessment done on scheduling, faculty input only to decide to look at other schedules [684-699 G1]
	have tried to do data analysis on grades and scheduling in the past, but data not comparable; not done current consideration [720-734 G1]
	used data to develop Freshman cluster originally, but haven't considered its impact since; and decision to move to all Freshman based on seeing students every day, not academic need, though improvement to ISTEP driving concern [741-795 G1]
	understand the challenge of comparable data, but seem to be using that for reason to collect no data; want a certainty about cause-effect rather than making some assumptions of normalcy with data [758-768 G1]
	plan to do a pre-post data collection for new problem solving goal [907-917; 953 G1]
	there is a challenge with having comparable data as ISTEP has changed over the years, changing staff [754-768 G1]
	realize need for data analysis and work on new problem-solving goal for NCA, but no person to do that [897-902 G1]
<i>Evidence of Reflecting</i>	
	currently reflecting about how others may have felt alienated during grant, as they feel now [241-245 G1]
	Teresa using reflective journaling as part of mentoring new teacher [7-12 G2]
	reflecting is done as part of daily routine, but not in written form (Sue) [388-397 G2]
	done constantly in regards to their own practice and its effectiveness as part of personal mastery [545-546 G2]
	bringing in previous knowledge to current setting [603-612 G2]
	asking students reflective questions about which she also wants information to help her approach student learning [163-166 Teresa 18 Jan]
<i>Evidence of Sharing / Public Exhibition of Knowledge</i>	
	wish for public sharing from other schools, even within district [157-161 G1]
	noted how the public sharing caused them to stay on top of their learning, which isn't happening now [184 G1]
	willingness to be open with their practice [495-496 G1]

<i>Evidence of Collaborative Structures</i>	
	lack of time at dept chair meetings to accomplish task but pinned to poor facilitation [353-357 G1]
	lack of time to do daily stuff and still keep up with personal development [1000-1001 G1]
	lack of time to get whole group together to continue CIG [206-207 G2]
	state mandates as getting in the way, “the things you <i>have</i> to do, get in the way of what you <i>know</i> you should do” [211-212 G2]
	lack of common meeting time [231-232 G2]
	as one of the reasons for the fact that there is no conversation among faculty [278-292 G2]
	e-mail as a new consumer of time during prep, where conversations with each other may have occurred previously [291-292 G2]
	identified as needed for collaboration; missing it [496-502 G2]
	Teresa assisting students in a “pull-out” G&T program, also multiple failure student, both outside of class/school time [43-51 Teresa 18 Jan]
	trying to stay true to best practices, but lack of time and resources [72-77 Teresa 18 Jan]
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	lack of administrative support at this time; but also more limited resources [949 G1]
	is what started CES involvement [1156 G1]
	feeling of lack of support; of a more contrary operating system in the school [55-59 G1]
	lack of honoring “the process” [92-100 G1]
	butting heads with administration in SLT, before it was disbanded [659-673 G1]
	Freshman Literacy work all done without extra resources; though originally a district literacy initiative [949-958 G1]
	noted that the original work was begun because of a former superintendent who was highly supportive of developing teacher leaders [1156-1158 G1] note value of; [85-90 G2]
	note finance roadblock to continuing CIG [32-33 G2]
	leadership change as roadblock to continued efforts; previous admin. was part of the effort all along [52-59 G2]
	saw grant principal as a facilitator, bringing good ideas to the school, not mandating [62-75 G2]; invitational [91-96 G2]; also facilitated by Superintendent [76-90 G2]
	accountability changed due to new mandates [556-579 G2]
	state funding for new teacher mentoring dropped - uncertain as to what happens to required mentoring [348-356 G2]
	principal verbally supportive of best practices in teaching and learning [779-787 G2]

<i>Evidence of Relational Integrity</i>	
	as a form of accountability [1000 G1]
	sense of being invitational in the past, missing now [264-272 G1]
	not present now, but saw CIG as vehicle for professional support [464-467 G1]
	identification of need for safe space to accomplish [20-23 G2] learned lesson that can't rush buy-in [122-127 G2]
	value of Network retreat and multiple perspectives; "facilitators there that really pushed us" [36-41G2]
	historical story of accepting conflict and working through it during grant years [42-45 G2]
	identifies the value of being challenged and the importance of protocol in creating the safe space to do so [130-138 G2]
	note value of appropriate conversation for challenging [181-184 G2]
	w/o CIG finds support missing to bolster individual in approaching classroom with a philosophy that goes against current grain of standards coverage [306-326 G2] "caving to pressure" [throughout G2, 337-338 as starting point]
	state mandated mentoring for new teachers created opportunities for this; most CIG members were mentors [scattered & 337 fwd G2]
	component of support these teachers give new teachers [369-378 G2]
	component of support these teachers give new teachers [369-378 G2]
	Teresa feels respected by colleagues and has informal conversations about practice[119-122 Teresa 18 Jan]
<i>Evidence of Enablers</i>	
	point to missing summer network as a place to keep pressure on their efforts [36-45 G1]
	wish for public sharing from other schools, even within district [157-161 G1]
	wish for opportunities to hear diverse views [344-352 G1]
	district curriculum director as enabler [441-444 G1]; sought ought to be so [441-465 G2]
	noted value of external coach for accountability to learn [1000-1004; 1027-1031 G1]
	notes value of "away" factor for Network events to help break down barriers and get to the work [1041-1047 G1; 22-26 G2]
	value of Network retreat and multiple perspectives and sharing to thinking; "facilitators there that really pushed us" [36-41 G2]

APPENDIX I

Coding charts for Emerson PreK-8 School - Follow-up Phase

(Sample source identifier: 434-465 G1 = lines 434-465 from group 1 interview)

<i>Evidence of Personal Mastery</i>	
	Tisha going to 6 Traits workshop to understand how it compares to writing workshop [67-79 G1]
	big focus of the writing workshop
	teachers hired by district for literacy coaching positions indicates strong pm
	new teachers attending writing workshop on own [182-185 G1]
	teachers doing prof dev on own [289-292 G1]; [esp CIG 26-29 G2]
	Jolene expecting PM from teachers she is coaching [64-70 Jolene 30 Nov 05]
	sees PM as lifelong journey [192-194 Jolene 30 Nov 05]
	evidence of Jolene learning all along in career [377-384 Jolene 30 Nov 05]
	prior to grant Jolene took course 4 times to deeply understand conception and develop mm [195-200 Jolene 30 Nov 05]
	belief in professional portfolio as tool to reflect on teaching; use during grant [509-530 Jolene 30 Nov 05]
	directs own professional development, even wheels and deals to get it [609-624 Jolene 30 Nov 05]
	pushing into new areas - using video to get to teachers; adding to electronic portfolio [303-308 Jolene 30 Nov 05]
<i>Evidence of Mental Models</i>	
	mm of “let’s do what others are doing” is present [117-120 G1]
	teachers seeing students in a negative light; Tisha sees need for change to that [225-230 G1]
	acknowledgment that change in student population requires a change in approach 340 fwd G1; 43-61 G2
	change in mental model from traditional to multiple age to looping [405 fwd G1]
	keeping focus on relationship between teacher and student [412 fwd G1]
	working on getting vision of the possible re Writer’s Workshop - but takes time [236-239 G2]
	consideration of how they are going about helping students become stewards a) showing teachers what is possible; b) revising what comes first (caring or knowledge) for students [200-220 Sally 10 Nov 05]
	trying to develop a different version of what school looks like [283-285 Sally 10 Nov 05]

	Jolene holding a mm of the student-teacher relationship as collaborative and working on that mm with teachers [119-134; 470-477 Jolene 30 Nov 05]
	Jolene working to change mm of teachers she coaches as to what students are capable of [126-134; 179-186; 231-237 Jolene 30 Nov 05]
	holds mm of value of integrated curriculum [424-432 Jolen 30 Nov 05]
	awareness of mm that different teachers hold [479-480 Jolene 30 Nov 05]
	mansion model example of Jolene holding mm of teacher as guide, student as worker [674-688 Jolene 30 Nov 05]
<i>Evidence of Team Learning</i>	
	book studies [12-13 G1]
	review of writing continuum results and analysis of what it means [58-60 G1]
	student achievement team meetings to collaboratively learn about the students [254-257 G1]; [11-20 Sally 10 Nov 05]
	new teachers meeting with assistant principal to learn about Emerson [369 fwd G1]
	developing study groups with teams and using LASW in looking at writing samples to improve teaching/learning [216-222; 222-228; 270-282 30 Jolene 30 Nov 05]
	excited about team process of sharing portfolios during grant 523-530 as valuable for all [548-554 Jolene 30 Nov 05]
<i>Evidence of Shared Vision</i>	
	possible development of sv in doing SIP together as a staff [204-207 G1]
	struggling with democracy piece, but little real effort to go through struggle [221 G1]
	environmental magnet focus as common purpose [309 G1]
	feel goals in SIP are clear [279 G2]
	sort of faux sharing [292-303 G2] (common decisions made but often required elements are identified as “your choice”)
	too many pieces, with a theory of action to “do all this”
	attempt to have coherent, articulated curriculum [53-99 Sally 10 Nov 05]
	articulation of sv she wants for all teachers [187-190 Jolene 30 Nov 05]
	shared commitment as necessary (re: school uniform story) [569-578 Jolene 30 Nov 05]

<i>Evidence of Systems Thinking</i>	
	writing process as holistic [67-79 G1]
	not negative effects of multiple mandates that do not coordinate [117-128; 130-134 G2]
	environmental magnet grant prof dev seems to have at least attempted to stay coherent [142-176 G2]
	Sally holds big picture view [110-116 Sally 10 Nov 05]
	school-wide decision-making with students [121-129 Sally 10 Nov 05]
	too many pieces, with a theory of action to “do all this”
	attempt to have coherent, articulated curriculum][53-99 Sally 10 Nov 05
	attempt to increase parental involvement; including the hiring of a parent liaison [231-243 Sally 10 Nov 05]
	Jolene focusing on relationships as important component to change[6-10; 30-32 Jolene 30 Nov 05]
	Jolene holds a long-term, big picture focus in her work [86-90 Jolene 30 Nov 05]
	Jolene fostering a view of students as active participants in the learning process [101-108; 116-118] with voice [264-269 Jolene 30 Nov 05]
	Jolene supporting writing as process [152-165; 248-258; 259-269 Jolene 30 Nov 05]
	forcing teachers to look at classroom and whole school perspective [280-282 Jolene 30 Nov 05]
	striving for big picture even before grant, wanting to teach every grade[325-328 Jolene 30 Nov 05]
	Jolene has systems view “it takes a whole school collaborating” and giving up own time to support it [402-414 Jolene 30 Nov 05]
	Jolene pushing for keeping parent perspective in mind [415-421 Jolene 30 Nov 05]
	pushing for stronger at-large community involvement in early grant years [490-508 Jolene 30 Nov 05]
	example of Jolene letting kids direct curriculum during grant & use community as learning experience [639-688 Jolene 30 Nov 05]

<i>Evidence of Collaborative Inquiry</i>	
	<u>not</u> happening because too many meetings for other things [68-79 G2]
	<u>not</u> happening because group had no formal status [74-79 G2]
	not in the same structure as CIG, but trying to get environmental theme going there was a lot of informal inquiry as to what was working [163-243 Sally 10 Nov 05]

	example of collaboration in planning with outside agencies included [252-268 Sally 10 Nov 05]
	Student Achievement Team meetings perform, in considering issues of teaching and learning, similar to CIG [11-20 Sally 10 Nov 05]
	Jolene working toward developing the shared community for this [36-45 20 Jolene 05]
	“When I left Emerson and didn’t have a CIG, I was truly... I felt handicapped.” identifies importance of value of CIG [218-221 Jolene 30 Nov 05]
	Attempted to reproduce CIG with fellow coaches [221-222 Jolene 30 Nov 05]
	speaking with teachers about value of starting CIG, or using protocols to get started [222-228 Jolene 30 Nov 05]
	Jolene beginning to use simple inquiry cycle with teachers [283-296 Jolene 30 Nov 05]
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	questioning stance still seen as present in staff and at team meetings [3; 9 G1]
	collective inquiry/reflection on use of writing workshop [67-79 G1]
	working with students to be inquirers [163-243 Sally 10 Nov 05]
<i>Evidence of Using Data for decision-making</i>	
	use of writing continuum [56 G1]
	ISTEP scores
	not collecting data on Writing Workshop effects locally
	analyzed quartile increases in examining test score data [320 fwd G1]
	Tisha using running records for writing which she analyzes for each student and then a general year to year comparison [320-339 G1]
	professional development based on needs survey [193-195 G2]
	some ISTEP, but not all easily accessible [2436-249 G1]
	lack of certainty about how to use data effectively [243-249 G1]
	good at collecting and looking at data, but not with the decision-making, especially collectively [33-47 Sally 10 Nov 05]
	Jolene uses data as literacy coach [25-27 Jolene 30 Nov 05]
	Jolene uses NWEA scores with grade level teams [46-53 Jolene 30 Nov 05]
	documenting work and activities as evidence for accountability [135-143 Jolene 30 Nov 05]
	LASW with writing samples on writing rubric continuum [271-282 Jolene 30 Nov 05]
	support of using student work as data for assisting students in learning [539-546 Jolene 30 Nov 05]

	Jolene used student portfolios until stopped teaching [notes Jolene 30 Nov 05]
	Jolene documenting own work with an electronic portfolio now [304-308] during grant [509-546 Jolene 30 Nov 05]

Evidence of Reflecting

	collective inquiry/reflection on use of writing workshop [67-79 G1]
	Tisha considering the effect of how people address kids [225-230 G1]
	Sally observing students and adjusting to improve the teaching process [132-136 Sally 10 Nov 05]
	on trying to engage students more [163-243 Sally 10 Nov 05]
	considering her tone with teachers during one session and discussing with principal [62-66] self-reflection noted [387-395 Jolene 30 Nov 05]
	Jolene fostering reflection among the students with teachers she coaches [109-114 Jolene 30 Nov 05]
	analyzes own limits in using video as a medium for teacher professional development [303-308 Jolene 30 Nov 05]
	belief in professional portfolio as tool to reflect on teaching; use during grant [509-530 Jolene 30 Nov 05]

Evidence of Sharing / Public Exhibition of Knowledge

	experienced teachers with younger teachers [193 G1]; (also pre-service)
	sharing with each other including classroom observ [267-270 G1]
	staff leaving to be literacy coaches [381 fwd G1]
	Jolene sponsoring on-line exhibition of writing for students as important [144-165 Jolene 30 Nov 05]
	Jolene had her work as a teacher videotaped for discussion with pre-service teachers [notes Jolene 30 Nov 05]

Evidence of Collaborative Structures

	too many things competing for time [68-71; 97-112 G2]
	Tisha discusses taking 5 plus years to get to the point where writing workshop becomes part of routine [236-239 G2]
	lack of time for conversation around teaching and learning [268-270 G2]

	Jolene worked to get a common planning time for the school she was with [34-40 Jolene 30 Nov 05]
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	support and resources for book groups, to score writing using continuum, to bring in consultant for writing workshop [132-141G1], consultant to address climate [213-220 G1], provide subs for team meetings [254-257 G1], full-time staff member dedicated to implement environmental focus
	support of new teachers [269 fwd G1]
	change in leadership this past year meant a change in style, less distributed leadership[378-389 G2]
<i>Evidence of Relational Integrity</i>	
	Tisha attending 6 traits ws to learn more about it as requested by other staff [67-79 G1]
	switch from multi-age to looping - discussion begun by challenge from staff [392 fwd G1]
	Sally challenges others about what school should look like [283-286 Sally 10 Nov 05]
	Sally challenges others about what they mean by environmental education [290-293 Sally 10 Nov 05]
	challenges teachers on making science connections [293-296 Sally 10 Nov 05]
	Sally feels supported by staff who are willing to try her ideas [298-310 Sally 10 Nov 05]
	school's decision to hire Sally full-time to support and challenge
	Jolene's role is to support and challenge [25-45 Jolene 30 Nov 05]
	Jolene questioning teacher about how to adjust assignment or approach so more students do work [91-100 Jolene 30 Nov 05]
	observing classroom practice and discussing with teacher [283-296 Jolene 30 Nov 05]
	Jolene's desire for feedback [534-536 Jolene 30 Nov 05]
<i>Evidence of Enablers</i>	
	university professor, though mostly informal; partnership with school of education [12-22 G2]
	Tisha's use of list serve [452 fwd G1; 3-29 G2]
	active involvement in NCTE for a number of staff [33-34 G2]
	Sally uses outside colleagues to figure things out [132-141 Sally 10 Nov 2005]
	attempt to coordinate with similarly-focused schools [348-357 Sally 10 Nov 05]
	enablers identified as key to putting her on current path [206-211 Jolene 30 Nov 05]

APPENDIX J

Coding charts for Pierce High School - Follow-up Phase

(Sample source identifier: 434-465 G1 = lines 434-465 from group 1 interview)

<i>Evidence of Personal Mastery</i>	
	belief that grant experience still on-going in individual classrooms [125-126 G1]
	Sue as mentor teacher to two new teachers and student teacher; questioning own practice as explain to them [220-231 G1]
<i>Evidence of Mental Models</i>	
	Sue notes change for her from new teacher to veteran teacher and its challenge [210-215 G1]
<i>Evidence of Team Learning</i>	
	climate change to preclude TL and whole school efforts; state mandates took efforts rather than reform pieces [55-67 G1]
	attempt at TL with SIP and collaboration, but final product of committees/study groups not used; sense of teachers feeling it was waste of time [127-133 G1]
	TL attempt with topical study groups by interest but lack of focus in some groups left little learning [138-148 G1]
	change in context for science dept (new teachers hired) brought classroom practice into discussion; disdained previously {Sue's influence is unknown} [194-209 G1]
	ENL work with staff, but mandated by district because of failure to meet state mandate [736-745 G1]
<i>Evidence of Shared Vision</i>	
	SV missing, building leadership just directing [149-154 G1]
	Peter sees need for change to schedule as a shared vision [232-235 G1] (or is it a shared reaction?)
<i>Evidence of Systems Thinking</i>	
	representative inclusiveness, but referring to grant years [28-34 G1]; less now [44-54 G1]
	feeling by Marie that possibilities to work as whole staff were squandered or not utilized [91-97 G1]
	yet felt like they were separate from everything else – didn't fit current system [172-179 G1]
	see their attempts at involving larger numbers of people in the reform effort as greater than that of the current change efforts [310-318 G1]
	Sue feel like she is very focused on classroom and department, not on whole system; & easy for everyone to sit back and focus only on classroom [339-362 G1]

parent participation has increased, but no apparent catalyst; certainly little school effort towards that [330-339 G1]
principal presence in community [380-381 G1]; more PR oriented [382-397]
greater contact with parents due to e-mail [489-490 G1]
perceive themselves as collaborating better and more productively when working with people they find challenging [550-559 G1]
collaboration in new areas occurring: science & tech ed [582-592] Academies ripe for collaboration, though little yet [593-595] English dept all along has been collaborative [593-595] science & math talking due to change in department leaders [638-653] pockets of individual instances, but no schoolwide
Academies were whole school effort to reorganize how some students move through hs, but the course sequences have not been fully implemented yet {sense of lots of time spent, some of it repetitive and still not to fruition}; some discussion about a Frshmn transition program to then improve academy selection, but only small pockets; identify that data analysis needs to take place with large staff conversations [663-675 G1]
changing just one aspect of school will not be the magic bullet, nor can you determine a direct causal link [845-851 G1]

<i>Evidence of Collaborative Inquiry</i>	
	teaching demands focus on individual response [69-80 G1]
	attempt at collaboration with SIP, but final product of committee/study groups not used; sense of teachers feeling it was waste of time [127-133 G1]
	limited collaboration and missed opportunities – e.g. Instructional Leadership Team not collaborative, but info dissemination [154-162 G1]
	collaboration occurred to fix schedule [240-272 G1] but reactive to a non-collaborative decision override of a collaborative one
	CIG efforts were useful but no vehicle now to build on those efforts [402-407 G1]
	CIG group not meeting [577-581 G1]
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	sense that they have kept inquiry alive in their own classroom with some drift to the rest of the staff [526-535 G1]
	science and math conversations about why kids are missing requisite skills [655-660 G1]
<i>Evidence of Using Data for decision-making</i>	
	looking at data and making some decisions based on that – mostly professional development decisions, but no cohesiveness to decision making or holistic looking [467-475 G1]

	example of buying laptop computers for students to check out based on results of survey on computer availability at home [477-486 G1]
	Rita – guidance department is revamping itself and looking at data toward that end
	don't often see data [505 G1]
	lack of data on block scheduling effect and have had block for years [828-830 G1]
	data reviewed to find areas of concern – ENL & poverty, but not specifically for best ways to respond [506-512 G1]
<i>Evidence of Reflecting</i>	
	considering perspectives of others in reference to level of involvement [55-58 G1]
	see reflecting as happening more often when things go poorly; wants diversity of opinion in order to reflect well [319-325 G1]
	sees new context as not giving time to be reflective [357-362 G1]
	new teacher portfolio (though state mandated) results in more reflection on part of new teachers [535-536 G1]
	new teachers as informally reflecting, but “that’s kind of always the way it’s been” [565-568 G1]
<i>Evidence of Sharing / Public Exhibition of Knowledge</i>	
	Sue as mentor teacher to two new teachers and student teacher; questioning own practice as explain to them [220-231 G1]

<i>Evidence of Collaborative Structures</i>	
	not giving change time to work and time to reflect upon its impact [424-430 G1]
	lack to time to look at data [500-505 G1]
	study groups used once
	Instructional Leadership Team not used as a collaborative venture as in the past
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	strong agreement on need for effective leadership who has bought into grant ideas; w/ leadership change now moving in different direction [119-125 G1]
	change in leadership identified as possible impact [105-166 G1]; echoed by Peter [167-171 G1]
	change in prep time and assistance to students both lessened due to decreasing finances [240-272 G1]
	not <i>only</i> leadership, but other restrictions on work [326-330 G1]

	decrease in resources limits implementation of plans, esp Academies [617-622 G1]
	administrative support for collab d-m not present; principal presents ideas and tries to get agreement [704-720 G1]
<i>Evidence of Relational Integrity</i>	
	perceive themselves as collaborating better and more productively when working with people they find challenging [550-559 G1]
	some of both in science department that didn't exist before
<i>Evidence of Enablers</i>	

APPENDIX K

Coding charts for Dewey 1 - 8 School - Follow-up Phase

(Sample source identifier: 434-465 G1 = lines 434-465 from group 1 interview)

<i>Evidence of Personal Mastery</i>	
	art teacher taking courses, sharing with staff [334-335 G1]
	sharing article weekly for discussion [334-338 G1]
	change in teaching practices to push students deeper into their work [89-102 Dan 07 Nov 05]
	working with other teachers and developing, but still working through new teacher issues [94-100 Joan 07 Nov 05]
	Loretta speaking with teachers after her about student performance and considering her performance [56-60 Loretta 07 Nov 05]
<i>Evidence of Mental Models</i>	
	strong belief in small groups of kids and teachers working together to determine learning [57-59 G1]
	working to pare down out of control curriculum for something meaningful [57-59 G1]
	change in view of whole new generation of parents of the school [186-194 G1]
	invite parents to open staff meetings to give parents a mm of how teachers interact [227-230 G1]
	teacher as generalist [347-350 G1]
	questioning need/advantage of identifying new teachers who have different mm [354-362 G1]
	Art is not a special but an equally important topic [23-31 Dan 07 Nov 05]
	cross curriculars support teaching and students' perceptions of importance of subject [61-67 Dan 07 Nov 05]
	describes teaching art as about teaching a lot of other learning process skills [74-82 Dan 07 Nov 05]
	George has a better sense of what he is after regarding meaningful work for kids [26-28 George 07 Nov 05]
	George holds a different mm of what classroom should look like; holds back until teaching partner moves on [41-52 George 07 Nov 05]
	students differentiated school-wide for math [91-92 George 07 Nov 05]

<i>Evidence of Team Learning</i>	
	wanting to share personal teaching philosophy, but not, though finally doing it this past year [16-19 G1]
	art teacher learning and sharing ideas from university course; sharing article weekly for discussion [334-338 G1]
<i>Evidence of Shared Vision</i>	
	working to re-develop shared vision with new teachers in the past two years [29-39 G1]; [74-93 G1] (great example); [106-109 G1]
	collective sense of the challenge faced by the community [95-99 G1]
	restitution training for all, including parents [154-160 G1]
	dilemma of how much is developed with new people for buy-in and what is sacrosanct [16-20 George 07 Nov 05]
	sv of experimenting [5-9; 11 Loretta 07 Nov 05]
<i>Evidence of Systems Thinking</i>	
	connecting all parts [22-26 G1]
	ownership by students of school community life and academic standards [67-71 G1]; [117-124 Joan 07 Nov 05]; [142-144 Joan 07 Nov 05]
	conversation on how faculty interacts to support conception of Dewey [106-109 G1] developing a covenant among teachers [119-121 G1]
	multiple perspectives sought of parental community [136-139 G1; also 141-160 G1]
	restitution training for all, including parents [154-160 G1]
	development of healthy camaraderie and community through interplay of factors [180-195 G1]
	NCA plan [213-220 G1]
	connecting art and other subjects, collaboration [342-346 G1]
	teachers as generalists first; whole school approach to develop whole child [349-354 G1]
	parents as career speakers – all jobs important; long-term; goal setting [516-524 G1]; [30-34 Loretta 07 Nov 05]
	art and language arts working together for better understanding of students on illustration and story telling [9-20 Dan 07 Nov 05] also with younger students – mummy project; rainforest [33-49 Dan 07 Nov 05] Development of activity that included family component [53-60 Dan 07 Nov 05]
	describes teaching art as about teaching a lot of other learning process skills [74-82 Dan 07 Nov 05]

Joan sees her position as bridging students to their last house before graduation [15-19 Joan 07 Nov 05] also working with both sides of her house; collaborating to transition students and be sure development is coordinated and seamless [71-85 Joan 07Nov 05]
coordinating soc studies and la for students [99-106 George 07 Nov 05]

<i>Evidence of Collaborative Inquiry</i>	
	lost collaboration, but working to get it back; “it is really important” – Loretta [27-28 G1]
	feels new superintendent will give them permission to be experimental and develop new ways to work with different student pop [448-452 G1]
	cooperative attitude of teachers [3-7 Dan 7 Nov 05]
	little time for collaboration; common planning missing, plan together after school, but with new teachers, mostly collaboration, no formal inquiry; flexible options for students [103-114 Joan 07 Nov 05]; [36-44 Loretta 07 Nov 05]
<i>Evidence of Inquiry Stance / Asking Questions</i>	
	especially in terms of student work [20-22 G1]
	George experimenting with classroom to make it more engaging as an environment for students; including items for students to experiment [41-52 George 07 Nov 05]
<i>Evidence of Using Data for decision-making</i>	
	data collection, but required [9-11 G1]
	Dan realizing that projects weren’t the quality students could do and adjusting his teaching to push students [89-102 Dan 07 Nov 05]
	use of data; variety of data [252-260 G1]
	basic use of anecdotal evidence to determine need to develop new ways to reach students [474-479 G1]
	student feedback and their making of connections as indication of success [133-138 Joan 07 Nov 05]
	using test data to sit and talk with students and develop goals, then instruction organized around that [16-27 Loretta 07 Nov 05]
<i>Evidence of Reflecting</i>	
	sees reflecting annually on personal philosophy of teaching as important [243-247 G1]
	Dan realizing that projects weren’t the quality students could do and adjusting his teaching to push students [89-102 Dan 07 Nov 05]

	Loretta considering feedback on student performance from next year teacher [56-59 Loretta 07 Nov 05]
	Dan examining projects to provide feedback and to gather information on students' knowledge to refocus students [104-122 Dan 07 Nov 05]
	reflecting with students on classroom environment and learning [117-124 Joan 07 Nov 05]
	George reflective on trying to do best practices for kids [94-99 George 07 Nov 05]
	Mark reflecting on observations and para comments [39-40 Mark 07 Nov 05]
<i>Evidence of Sharing / Public Exhibition of Knowledge</i>	
	individually with George at local teacher association [60-65 G1]
	with parents invited to open staff meetings [222-233 G1]
	also teaching philosophy [243-244 G1]
	for students through 8 th grade exhibitions, though more celebration; desire to move to more knowledge exhibition [262-281 G1]

<i>Evidence of Collaborative Structures</i>	
	Dan being only two days a week limits the type of interaction with other teachers he would like [127-135 Dan 07 Nov 05]
	lack of time for collaboration [George]; [40-48 Loretta 07 Nov 05]; [103-114 Joan 07 Nov 05]; [27-35 Mark 07 Nov 05]
	returning to collaboration [27-28 G1]
<i>Evidence of Administration supporting collaborative inquiry and five disciplines</i>	
	lack of support [38-40; 44-48 G1]
	support with new supt to be experimental [440-447 G1]
	change in central office support; feel welcomed now; has affected a greater energy to move forward [38-50; 67-68 Joan 07 Nov 05]
<i>Evidence of Relational Integrity</i>	
	art teacher learning and sharing new ideas [324-338 G1]
	willingness of other teachers to support art learning has impacted individual teaching of art teacher [3-7 Dan 7 Nov 05]
	"He says I push him, but he seems like he pushes me. And that's kind of a neat feeling." [51-53 Dan 07 Nov 05]

	teachers finding out what Dan is doing in art and incorporating those ideas into their classrooms [129-134 Dan 07 Nov 05]
	new teacher feeling support and assistance from colleagues [5-12 Joan 07 Nov 05]
	comfortable level with challenging; great group socializing [24-32 Joan 07 Nov 05]
	candid conversations between George and Mary about their teaching partnership to make it more effective [72-88 George 07 Nov 05]
	sharing of ideas and trying on own; visiting other classrooms [12-19 Mark 07 Nov 05]
<i>Evidence of Enablers</i>	
	parent support & parent involvement; development of process for parents to raise teacher concerns [141-14168 G1]
	paraeducator as enabler to Mark [39-43 Mark 07 Nov 05]

CURRICULUM VITAE

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DEGREES AND CERTIFICATION

Doctor of Philosophy, Curriculum Studies, Curriculum and Instruction; Indiana University, June 2007. Dissertation: Sustaining schools as learning communities: Achieving a vision of the possible.

Master of Arts in Education, specializing in Supervision; Baldwin-Wallace College; July 1995. Ohio Certificates for Supervision, Middle School Administration, and High School Administration

Master of Science in Leisure and Environmental Resource Administration, specializing as Environmental Education Curriculum Specialist; Aurora University, August 1990

Teaching Certificate, Secondary Science; Baldwin-Wallace College, December 1983. Ohio Teaching Certificate in Comprehensive Science, Biology, and General Science

Bachelor of Science in Agriculture, majoring in Recreation Resources -- Interpretation; Purdue University, May 1980

PROFESSIONAL EXPERIENCE

Professor, Pace University, New York, NY.
January 2007 to present. Teach courses in science education and teacher as researcher.

Consultant/Professional Development Provider
June 2000 to present. Consulting topics include integrated curriculum, school reform and change issues, environmental/outdoor education. Organizations served include: Bay Village Schools (OH), Technology Careers Academy (Indianapolis, IN), Lakewood City Schools (OH), Sheboygan Schools (WI), Safely Home (Cleveland, OH).

Executive Director, Indiana Essential Schools Network, Indianapolis, IN.
June 2000 to June 2006. Direct professional development center and school change network. Responsibilities included grant writing, grant coordination, and design and implementation of professional development experiences. Recent projects included Middle School Science Inquiry Project and PDS Writing Workshop Program.

Instructor, School of Education, Indiana University-Purdue University, Indianapolis.
Spring Semester 2003, S420 "Middle School Methods" and M303 its concurrent field experience. Summer II Term 2001, J500. "Instruction in the Context of Curriculum."

School Reform Coach, Indiana Essential Schools Network, Bloomington, IN. November 1998 to June 2000. Assisting schools engaged in school reform.

Research Assistant to Dr. Marilynne Boyle-Baise, Indiana University, Bloomington, IN. August 1998 to July 1999. Researching the impact of community service learning on pre-service teachers taking a multicultural education course.

Associate Instructor, Department of Curriculum and Instruction, Indiana University, Bloomington, IN. September 1996 - May 1998. Instructor for M314, "General Methods for Middle School/Junior/Senior High Teachers."

Lead Teacher, Integrated Curriculum Project, Seventh grade, Lakewood City Schools, Lakewood, OH. 1995-96 school year.

Science Teacher, Seventh and Eighth Grade, Lakewood City Schools, Lakewood, OH. September 1984 to August 1995.

HONORS

Honorable Mention, James T. Sears Award, Curriculum & Pedagogy Conference, 2005.

University Fellowship, Department of Curriculum and Instruction, Indiana University, 1996, 1997, 1998.

Associate's Award (1996), Chair's Award (1992), The Institute for Earth Education.

PUBLICATIONS

Kilbane, J. and Holloway, L. (2005). "Approaching School Reform with an Ecocentric Perspective." In (De)liberating Curriculum and Pedagogy: Exploring the Promise and Perils of "Scientifically Based" Approaches.

Boyle-Baise, M. and Kilbane J. (2000). "What Really Happens? A Look Inside Service-Learning for Multicultural Teacher Education." Michigan Journal of Community Service Learning. Also published as Chapter 4 in Multicultural Service Learning: Educating Teachers in Diverse Communities by Marilynne Boyle-Baise (2002).

Mason, T., Kruchkov, V., and Kilbane, J. (1999). "United States and Russian Teachers' Perspectives on the Integrated Curriculum in Global Education." International Journal of Social Education.

Kilbane, J. The CLASS Project. (1992). Talking Leaves: A Seasonal Journal of The Institute for Earth Education. Spring/Autumn, 5-9.

PRESENTATIONS

“Sustainability Issues of a Learning Organization” American Educational Research Association Annual Meeting, San Francisco, CA, April 2006

“Approaching School Reform with an Ecocentric Perspective” Curriculum & Pedagogy Conference, Miami, OH, October 2004. (with L. Holloway)

“Teachers’ Understandings of Ecological Concepts” American Educational Research Association Annual Meeting, New Orleans, LA, April 2002. (with B. Johnson)

“How would fostering an ecocentric view promote the cause of social justice?” Curriculum & Pedagogy Conference, Victoria, BC, October 2001. (with L. Holloway)

“Green is the Democratic Classroom.” American Educational Research Association Annual Meeting, New Orleans, LA, April 2000. (with L. Holloway)

“What Really Happens? Community Service Learning for Multicultural Teacher Education” College and University Faculty Assembly, NCSS, Orlando, FL, November 1999. (with M. Boyle-Baise)

“The Essential Greening of the Democratic Classroom.” JCT Conference on Curriculum Theory and Classroom Practice, Dayton, OH, October 1999. (with L. Holloway)

“General Methods as a Starting Point for the Environmental Movement’s Reform of Schooling: A Response to C. A. Bowers.” JCT Conference on Curriculum Theory and Classroom Practice, Bloomington, IN, October 1998.

“The Heathers Ask, ‘Do Ph.D. Programs Perpetuate the Status Quo or Develop the Frontier?’” JCT Conference on Curriculum Theory and Classroom Practice, Bloomington, IN, October 1998. (with L. Holloway, S. Johnstad, D. Merrill)

“The Integrated Curriculum in Global Education.” American Educational Research Association Annual Meeting, San Diego, CA, April 1998. (with T. Mason, V. Kruchkov)

“Intent and Perception of School Change: Integrating the Curriculum.” JCT Conference on Curriculum Theory and Classroom Practice, Bloomington, IN, October 1997.

“Jumping into Dewey: The Shallow End First.” JCT Conference on Curriculum Theory and Classroom Practice, Bloomington, IN, October 1997. (with L. Holloway)

PROFESSIONAL SERVICE

Project Coordinator, Development of Grant Proposal for a Research Center on Low Achieving Schools to IES, April-May 2004

Project Developer, Grant for Middle School Science Inquiry Teaching proposal to the Indiana Commission for Higher Education, Grant awarded February 2003.

Committee Member, Development of Post-Baccalaureate Teacher Education Program for Secondary Science Teachers, IUPUI School of Education, November 2000 - June 2001.

Editorial Board, JCT: Journal of Curriculum Theorizing, Caddo Gap Press, San Francisco, CA, January 1999 to 2002.

Chair, Executive Staff, The Institute for Earth Education, Greenville, WV (International Headquarters), January 2000 to 2004. Associate Staff Member, 1990 to present

United States Major Branch Coordinator, The Institute for Earth Education, Greenville, WV (International Headquarters), July 1994 to December 1999.

On-Site Coordinator and Planner, JCT Conference, Bloomington, IN, October 1998.

Committee Member, Committee to examine evaluation and assessment in the School of Education, Indiana University, 1997-1998.

Committee Member, Committee to develop an "early adolescent" teacher certification program, Department of Curriculum & Instruction, Indiana University, 1996-1997.

Teacher Coordinator, K-8 Science Course of Study Revision, Lakewood City Schools, Lakewood, OH, June 1995- July 1996.

Cuyahoga County Leadership Team, Northeast Ohio Regional Professional Development Center, 1992-1994.

President, Lakewood Teachers Association, 1992-1993., Co-Chief Negotiator, 1991, Negotiating Team Secretary, 1988.

Coordinator, Kelleys Island field program (5 years), Science Olympiad Coach (3 years), Student Council Advisor (3 years), After-school study coordinator (1 year) -- Harding Middle School, Lakewood, OH.

PROFESSIONAL MEMBERSHIPS

American Educational Research Association, 1996 to present

Association for Supervision and Curriculum Development, 1996 to present

Environmental Education Council of Ohio, 1980 to present

Phi Delta Kappa, 1995 to present

The Institute for Earth Education, 1989 to present

The National Society for the Study of Education, 2000 to present

REFERENCES

Available upon request.