TRANSLATING DATA INTO ACTION:
A DATA TEAM MODEL
AS THE SEED OF COMPREHENSIVE DISTRICT CHANGE

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"If we want schools to produce more powerful learning on the part of students, we have to offer more powerful learning opportunities to teachers" (Feiman-Nemser, 2001, pp. 1013-1014).

"All teachers in all schools will experience high quality professional learning as part of their daily work by 2007" (National Staff Development Council, 2007, website).

These are the challenges facing all educational change agents: universities providing preservice training for education majors, school districts mentoring new teachers, and school districts delivering ongoing professional development for experienced teachers and leaders. Besides reshaping professional development for individuals, school districts have the added challenge of reshaping their own organizational personae in order to become successful and performance-driven. According to Datnow, Park and Wohlstetter (2006), districts need to build a "foundation for data-driven decision making" which includes "establishing specific, measurable goals at the system, school, classroom and individual student levels" (p. 5). They also need to develop school capacity for this by "investing in professional development, providing support for staff in how to use data, modeling data use and data discussions, providing time for teacher collaboration and connecting educators across schools to share data and improvement strategies" (p. 7).

The smaller the unit of discussion, the more ownership and empowerment participants feel toward the structure, and the more likely that action will be taken because of the dialogue around data. To this end, there are several models of data teams at work in schools today seen in Japanese Lesson Study, Whole Faculty Study Groups (Murphy and Lick), Critical Friends Groups (Annenberg Foundation), Standards in

Practice Groups (Education Trust) and Data Teams (Leadership and Learning Center). Each has its own unique characteristics which makes it differ from the rest. The purpose of this study is to offer a formative evaluation of the implementation and impact of the LLC Data Team model in 36 elementary schools in a large urban district from the perspective of all stakeholders: district leaders, principals, teachers and students.

Data Teams, developed by Doug Reeves' Leadership and Learning Center, are small professional groups consisting of grade level teachers, the principal, the reading coach, the special education teacher, and content specialists who meet at least every other week for about 30-45 minutes to examine student work collaboratively. During the meeting, they compare all students' progress on a particular standard by observing and noting characteristics of success seen in application of learning on an authentic task. Secondly, they discuss and share effective teaching strategies from Marzano, Paytner, Pickering, and Norford's (2001) *Handbook for Classroom Instruction that Works*. They commit to using a particular strategy and assessing student learning on an identified standard at an agreed upon timetable measured with a common performance assessment. Finally, they share results publicly with cross-grade level teachers, with students, with parents and sometimes even with other schools (Leadership and Learning Center, 2004).

For example, a 4th grade Data Team might sort a pile of common student assignments of a single written paragraph looking for evidence of each student's ability to construct an effective topic sentence. Teachers note the number of students and the percent of the class that have topic sentences and record that on the Data Team meeting form. Next, they discuss characteristics they see in successful paragraphs and what they see in unsuccessful paragraphs and record those on the Data Team form. Then team

members discuss teaching in terms of the effective teaching strategies from the *Handbook for Classroom Instruction that Works* (Marzano et al., 2001), which might assist the unsuccessful students. After listing several possibilities, the team decides which strategy to try, how often they will use it, and which common performance assessment they will administer at the end of that 2-week period. Finally, the team reconvenes to compare results again. Teachers share results of the Data Team meeting with students who keep class charts of their collective progress in the hallway and may also chart their individual progress in folders at their desks. This process continues until the grade level ideally exhibits 80% mastery of the standard at which time another standard is chosen.

Why Data Teams Are Important

Wagner and Kagan (2006) discuss using data to create a sense of urgency for the hard work ahead and to help everyone understand the need for change. Data Teams provide the mechanism for reflection on the *why* teachers are teaching *what* they are teaching, *how long* they are teaching it, *to whom* and with what *degree of success*. As school leaders search for a format that leads to district, school and personal improvement on many fronts concurrently, the Leadership and Learning Center model of Data Teams is one such promising practice. This design not only involves sensemaking of data as evidence of effective teaching and learning, but also builds a foundation for a professional learning community, distributes leadership, enhances professional development, develops principals as instructional leaders, and engages students in mastering standards. This combination leads to overall school improvement. Because the purpose of this study is to offer a formative evaluation of the implementation of LLC Data Teams in the 36 elementary schools in a large urban district, a review of the

literature on data use in schools, leadership, professional learning communities, and professional development provides background for this research.

Data-Driven Decision Making

What Does It Mean to Use Data?

The standards movement of the 1990s advanced the use of data in schools (Coburn & Talbert, 2006) and in today's climate of accountability, educators are always looking at results. However, the object is not to meet a test score goal as data has traditionally been used, but rather to draw on results as a guide for discovering effective practice (Fink & Resnick, 2001) and providing a focus for discussion (Supovitz & Klein, 2003).

Shirley and Hargreaves (2006, n.p.) write that "mindful teaching needs to be evidence-informed, not data-driven." The distinction in the connotation of the terms *data* versus *evidence* is important. While *data* may mean numeric information, the term *evidence* implies something that furnishes proof. Data become the mirror that reflects the evidence teachers and leaders use to make decisions on effective practice, effective resources and effective personnel. When teachers and leaders believe the data, the numbers become evidence. It is discussion centered around this evidence that leads to a culture of collaborative inquiry where teachers and leaders learn to identify and reflect on both the "*who* and the *what* of instruction" (Supovitz & Klein, 2003, p. 18).

Research points to these seven current practices that show how student performance data is used by teachers and leaders to improve achievement: (a) to inform instruction, (b) to identify low performing students and plan their support, (c) to plan professional development, (d) to set goals, (e) to celebrate accomplishments, (f) to create a visual of

school priorities, and (g) to provide evidence in conversations with parents about students. All of these reinforce the fundamental mission of schools (Supovitz & Klein, 2003).

However, Wayman et al. (2005) contend that no single source of student data provided all the information needed to improve student achievement, and so triangulating data from various sources, supplies a more complete and accurate picture no matter what decision is to be made. In the America's Choice Schools where Supovitz and Klein (2003) did their research, school leaders noted that running records and writing samples, were more useful to teachers for planning instruction than state or district test results. Supovitz and Klein (2003) also found that the school-level development of assessments and the data they provide helped teachers better understand the link between the curriculum, the standards and student performance.

Seeing the reciprocal relationship between teaching and student learning by using data is critical if today's teachers are to continually raise student achievement. However, there is scant training designed for or collegial time devoted to developing the sophisticated skills needed for this to become a reality in today's schools. The privacy of practice and reliance on intuition teachers are accustomed to work against the systematic use of evidence to improve instructional practice in schools. As schools begin to shift to the effective use of evidence, there is much work to be done in public schools today.

Leadership

Principals as Instructional Leaders

A change in the culture of the district or the school is necessary for meaningful improvement and this change begins with the leader (Reeves, 2006/2007). This collaborative culture incorporates goal setting, reciprocal accountability, and a focus on learning by stakeholders at all levels of the organization (Fink & Resnick, 2001; Halverson, Pritchett, Grigg, & Thomas, 2005; Liontas, 1992; Waters & Marzano, 2006). This shift in culture is initiated by those who see themselves as instructional leaders and accept this transformational role.

As early as 1926 in the *Bulletin of the Department of Elementary School Principals,* it was noted that "The most important duty of an elementary school principal is the supervision of instruction" (pp. 212-213). In comparison, today's principals as instructional leaders must understand they are the continual "leaders of learning and professional development" (Supovitz & Poglinco, 2001, p. 15). To support this perception, Supovitz and Poglinco (2001) outline five key strategies exhibited by instructional leaders that create and sustain communities of practice necessary for whole school reform: (a) developing a safe environment where teachers felt they could take risks, (b) emphasizing open communication to establish and expand networks, (c) cultivating both formal and informal leaders, (d) using symbolic actions to communicate vision, and (e) developing strong systems of accountability. This idea of accountability echoes from as early as 1888 where Howland (1888) is cited as stating, "The real supervision of the teachers and pupils . . . of the school must now, as ever, rest with the

principal who alone can control and direct the daily work and become personally familiar with the progress of the pupils" (Gist, 1926).

Teacher Leaders

The initiative to improve student achievement cannot rest solely on the principal as instructional leader. As Supovitz and Poglinco (2001) describe "the development of other school leaders serves many purposes. It expands experience across the faculty, thereby deepening efforts for instructional improvement and increasing the likelihood that these efforts will be sustained over time. Also, it (is) a necessity for principals to lighten their management burden in order to spend more time in the classroom and on instructional issues" (p. 10). As one principal quoted, " . . . you don't do everything. You work with your staff so that they are the experts and they are collaborating. And you come together with them in that collaboration of their knowledge and your knowledge together" (p. 10).

Spillane and Camburn (2006) note that "teachers contribute to an array of leadership functions including sustaining an instructional vision and informally monitoring program implementation" (p. 11). It is this shared leadership model that exemplifies Leithwood's definition cited in Liontas (1992), where transformational leadership "reduces the differences in status between workers and managers, emphasizes collaborative decision-making and (is) based on empowerment <u>through</u> other people instead of <u>over</u> other people" (p. 1). This idea of distributed leadership was introduced more than four decades ago (Gronn, 2002), and it is through and across the shared leadership structure that feedback and information flow to provide the lifeblood of the organization. Halverson et al. (2005) note that in a school where leadership is distributed,

leaders link assessment, goal setting, analysis, implementation and feedback coherently and teachers take collective responsibility for the learning of all students in the school. Peer discussion and peer evaluation insure the alignment of the curriculum (standards) with what is being taught in the classrooms (Halvorson et al., 2005). Shared leadership leads to coherence and cohesion in a staff and a system.

Elements of Shared Leadership

No matter what form shared leadership takes in schools, there are common elements essential for it to be successful. There must be a level of trust which centers around common values, common outlooks, psychological space and previous collaborative experience (Gronn, 2002); a problem-solving approach (Halverson et al., 2005) where discussion is about instruction, not about members themselves (Supovitz & Poglinco, 2001); recurring dialogue and frequent meetings. This reflective discussion generated in a community of shared leadership grounded in results moves schools to a new level in collaboration and achievement.

Professional Learning Communities

Purpose of a Professional Learning Community

Shared leadership naturally builds collegiality and focus. It is when the frequency and intensity of discussions about instruction and results increase and the level of trust escalates to a professional bond that a school becomes a professional learning community. The purpose of such a community is multi-faceted. It involves developing and maintaining commitment, building collective experience to face collective challenge, sharing decision-making and trust, and giving support through the change process in a

new paradigm of collaboration leading to school improvement. The next section will discuss each of these aspects.

Teachers who feel a sense of collegiality and have opportunities to learn reveal that they are the most committed to their schools. This commitment to each other and to learning is essential to improving teacher performance as well as student learning and also reducing teacher turnover (Hausman & Goldring, 2001). Lewis, Perry and Murata (2006) share that professional learning communities are designed to not only build, but also strengthen this paradigm.

Little (2003) notes why this learning community-building can only be accomplished at the school level. "Making sense of one another's stories, speculations, explanations, comments, jokes, complaints, and observations–treating them as meaningful and adequate for some purpose–is a central and constitutive feature of teachers' collective practice" (p. 936). The teachers' lived experience in the world of school can only truly be understood by those who live there.

Coexisting with the collective experience and commitment that teachers share, there is a wide-spread trend to professionalize teaching. This translates into more and better professional development, avenues for collegiality, and greater influence over whole-school decision-making (Hausman & Goldring, 2001). This trend simultaneously leads to enhanced expectations for teacher leadership, but also ownership of results. Tschannen-Moran (2001) states that higher-quality decisions are the product of collaboration and when workers are "satisfied with their level of involvement in decision-making, it may lead to greater trust . . . in leadership" (p. 315). Professionalizing teaching is about reciprocal respect and as well as reciprocal responsibility.

Reciprocal respect exemplifies trust and research shows "trust contributes to organizational effectiveness in schools" (Tschannen-Moran, 2001, p. 313). A certain level of trust must exist in a school between the school leaders and teachers in order to establish and maintain a professional learning community. Tschannen-Moran (2001) found that "the level of collaboration was related to the level of trust" (p. 308). She notes these five essential qualities of trust: "benevolence, reliability, competence, honesty, and openness" (p. 314). In a school that exhibits these attributes, professional learning communities could be established and thrive.

Even when trust exists and a collaborative decision-making design is employed, change is difficult. Little (2003) says the "force of tradition and the lure of innovation seem simultaneously and complexly at play in . . . teachers' everyday talk" (p. 940). This opposing dynamic is pervasive in schools today. The shift to collaborative learning communities is a new paradigm. Waters and Marzano (2006) classify it as second-order change—one that requires a break from the past, is in conflict with prevailing values and norms, and calls for new knowledge and skills. Second-order change requires leadership that is cognizant of organization-building which includes communicating a shared vision, supporting a productive work culture, and distributing leadership (Leithwood, 1993). These are the characteristics of transformational leadership and only the support of colleagues throughout the change process would ease the disorientation created by the shifting paradigm.

Definition of a Professional Learning Community

As teachers and leaders accept change, they begin to transform into a professional learning community. A professional learning community is defined by its purpose,

knowledge, and function. Additionally, its life-cycle is determined by the value it provides for members. It differs from a network in that it is 'about something' and its members are engaged in collective learning (Wenger, 1998, p. 4). A professional learning community also typically exemplifies shared values, a focus on student learning, collaboration, deprivatized practice, reflective dialogue (Louis & Marks, 1996) a greater commitment to the school, and shared decisions (Hausman & Goldring, 2001). It is a "living process" and more flexible than organizational structures.

Building a Professional Learning Community

Not all schools are ready to become professional learning communities. Some fundamentals have to be in place. They need organizational structures that provide time, leadership, resources, and motivation to engage in reflective instructional work. They need a working culture where it is safe to explore and assess instructional strategies that are successful with students. They need professional development to continuously expand and support practices for improving teaching and learning. They need a protocol because sustaining a learning community may be more likely if a routine procedure is followed (Supovitz, 2002).

There are opposing perspectives on school reform: national policymakers want systemic reform very quickly and have focused on standards and accountability rather than primarily on teacher development (Louis & Marks, 1996, p. 39). They might do well to acknowledge that building teacher capacity through communities of practice (professional learning communities) would lead to deeper and more sustainable reform.

Professional Development

Characteristics of Effective Professional Development

There are several factors that contribute to the effectiveness of professional development. It must be self-directed, connected to the learner's experience base, goal-oriented, relevant, practical, and show respect for the learner (Lieb, 1991; Guskey, 1986). Guskey (1986) adds the onus is on the providers of professional development to recognize that change is gradual and difficult for teachers, to insure that teachers receive regular feedback on student learning, and to provide continued support for the initial training. Additionally, powerful professional development must be focused on content knowledge, provide active learning, and be coherent with other training (Garet et al., 2001). It also must be inquiry-based, collaborative, relate to the needs of students or school improvement, delivered by a knowledgeable other, and job-embedded (Fieman-Nemser, 2001; Garet et al., 2001; Guskey, 1986; Lieb,1991; Little,1993; Smylie et al., 2001).

When planning professional development, it is more important to focus on the duration, collective participation and the core features than the type (Garet et al., 2001). Smylie et al. (2001) suggest a combination of 'inside-outside" resources provide a "mix of relevance, impetus and expertise" (p. 60). As many new teachers are overwhelmed in their first years, Fieman-Nemser (2001) notes that 3rd to 5th year teachers who have a solid base from a strong preservice program are matured and ready for professional development oriented toward reform (p. 1039). Little et al. (1993) summarize the underlying purpose of professional development: to "deepen the discussion, open up the

debates and enrich the array of possibilities for action" that yield improved results and begin to make school reform real (p. 148).

Guskey (1986) in the Staff Development Sequence Model of teacher change illustrates the three major outcomes that result after effective teacher professional development: (a) change in classroom practice, (b) change in the learning outcomes of students, and (c) change in teacher beliefs and attitudes. He notes the sequence of these changes is important and that teacher involvement in planning for the change is invaluable.

Barriers to Effective Professional Development

Leaders should be cognizant of multiple barriers that could hinder effective professional development. These include resources, time, format, delivery, tradition, and organization. As teachers look to leaders to provide those tangible pieces, they also count on leaders for intangibles such as "direction, urgency, and intellectual leadership" for professional growth (Smylie et al., 2001, p. 61). In considering format and delivery, there needs to be the "sense of doing "real work" instead of being "talked at," and an opportunity to consult with colleagues, as well as experts" in order for teachers to see the efficacy of professional development activities (Little, 1993, p. 137).

Tradition can also be a barrier. Fieman-Nemser (2001) points to the "paradoxical role of prior beliefs" surrounding professional growth in that they serve as a filter through which new learning occurs, but also as a "barrier to change" (p. 1016). These prior beliefs can become a roadblock to developing a learning culture.

A final barrier to professional growth for teachers and principals is the organization of schools. The existing configuration in most schools does not readily

allow teachers to work together on problems of practice in serious and sustained ways. According to Fieman-Nemser (2001), "With no tradition of inquiry, experimentation or collaboration, there is a strong press to maintain the status quo"(p. 1021).

In this age of educational reform where the stakes are high and what schools are asked to do multiplies exponentially everyday, teachers need the latest and most powerful repertoire of practice to draw from. But more importantly, they need each other and a knowledgeable leader. Effective professional development invites all along on the learning journey to inquiry and self-reflection with the support of other learners like themselves and the synergy of that bond.

Concluding Thoughts

Besides the original purpose of researching the implementation and impact of Data Teams in my study, after reviewing the literature, additional underlying questions emerged. First, despite the increasing focus on data use in educational practice, research has just begun to investigate whether and how this strategy leads to improved teaching and learning (Kerr et al., 2006). Also, it was noted that few studies go inside the professional school community and focus on the teacher and leadership development opportunities that reside within ordinary daily work (Little, 2003). Finally, although there is some evidence that collective approaches can lead to change in teaching practices, there is little research available on the effects of collective approaches to professional development (Garet et al., 2001). The Data Team model researched here touches on all of these questions and through this exploration of stakeholders and their learning community, it will hopefully begin to add to the existing body of knowledge in these areas as well.

DATA SOURCES AND METHODS

This study examines the implementation of Data Teams as one educational reform practice that holds promise for elevating schools and stakeholders to a higher level of competence. The aspects of data use, collaboration, shared leadership and professional development are integrated into the Data Team process and offer multiple avenues for whole school reform leading to district reform through personal reform.

There are four stages of analysis. The first is a broad look at how the process of Data Team implementation is unfolding across a large urban district through analysis of surveys from thirty-six elementary school principals. (Appendix A) The district survey included questions on the stage of implementation of the Data Teams initiative, frequency and duration of the Data Teams' meetings, the participants, the leadership structure, the follow-up to the meetings, the general attitude and the link to professional development. Analysis included a correlation of these topics. Also, the percent of implementation district-wide was determined as well as that of individual schools. Finally, because some schools were identified by the principals, the amount of gain or loss on the state elementary reading achievement test was noted.

The second stage involved an in-depth analysis of one Data Team that was derived from a detailed survey of individual stakeholders – the principal, three teachers, and the reading coach--as well as a group interview process. The in-depth survey included questions on the following: the benefits and drawbacks to meeting as a team, how being part of the team impacted their teaching, how implementation changed from the first to the second year, advice for other teams, what an ideal meeting looks like, how a new member might be brought into the team, change in focus or tenor of meetings

when others attend, change in students because of Data Teams, change in parent involvement, standards focused on, professional resources used, support needed for sustaining the initiative, an evaluation of the initiative, and how stakeholders have been affected personally and professionally because of this. Responses were coded individually and sorted to discern similarities, differences, and any predominant patterns. These Data Team members were also asked to create a metaphor for their experience which provided insight into their perceptions.

The last stage involved analysis of a student survey from the three classrooms where the Data Team members teach. Students answered questions concerning how they felt about their learning since their teachers had been part of the Data Team and what would help them learn better next year. This final set of data gave all the stakeholders a voice in the implementation process.

Ethical Considerations

My position as Reading Assessment Coordinator gives me unique insight into the implementation of the Data Team initiative. Because I have been involved in helping teachers and leaders understand and use data both before and after this initiative, I can see a clear difference in the district culture that now supports the use of data at all levels. The fact that I have been a singular voice for translating data into changed instructional practices in our district for over 6 years makes me realize how powerful the LLC Data Team training was. It magnified the focus on collaborative discussion of data and provided a single method of delivery. The impetus of this initiative has helped move many more people on many more levels than I ever could individually.

FINDINGS

Question 1: To what degree has the LLC Data Team process been implemented in the 36 elementary schools across a large urban district?

According to the principals' responses, Data Team implementation was not uniform across the district's 36 elementary schools. (See Figure 1).

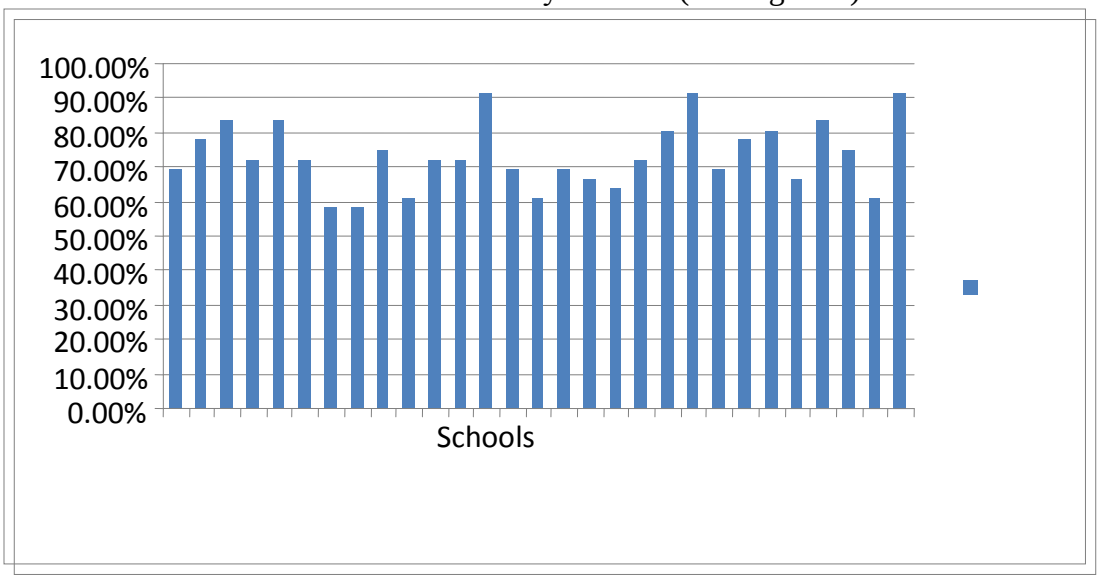

Figure 1 .*Percent of Implementation of Data Teams as Recorded on Elementary Principals' Survey*

Implementation ranged from 58% to 92% based on each survey's accumulated points as a percentage of 36 total points possible. The district average was 72.75% Survey results were derived by calculating the total points assigned to principals' responses on the survey/rubric and comparing that to the total points possible for descriptors aligned with full Data Team implementation.

Survey Descriptors

The survey questions centered on key factors that impact full implementation (Appendix A). These are the frequency of the meetings, the duration of the meetings, the

years of implementation, the various personnel in attendance at the meetings, the amount of teacher leadership at the meetings, the type and depth of follow-up to the meetings, the degree of student involvement after the meetings, the general attitude participants have toward the meetings, and the degree that participants see Data Team meetings linked to their own professional development. The survey was set up as a rubric with high implementation designated by the characteristics described on the left side where descriptors were given four points and the lowest implementation represented by the descriptors on the right side of the survey where descriptors were given one point.

Frequency of the Data Team Meetings

For frequency of the meetings, the choices ranged from weekly, every other week, monthly, or less often than monthly. The ideal is that Data Teams meet weekly. Survey results indicate that the range of meetings was from weekly (4) to monthly (2) as represented in Table 1. The mean was 2.34 which would equate to slightly more often than monthly. Standard Deviation was .61. The median and mode were each noted as monthly (2).

Duration of the Data Team Meetings

Choices for duration of the meetings ranged from 30-45 minutes to more than an hour. The ideal is the 30-45 minute meeting. According to the principals, the duration of the meetings ranged from more than 45 minutes (3) to more than an hour (1). The mean was 1.65 indicating that most buildings held meetings lasting somewhere between an hour and more than an hour. Standard deviation was .76. Both the median and mode were 1 illustrating that over an hour was common.

Years of Implementation

Descriptors for the years of implementation ranged from second year, first year, first semester, or not really established yet. If schools initiated the Data Team model immediately after the training in 2005, they were in the second year of implementation in the spring of 2007. The range for this category indicated schools were in the first (3) or second year of implementation (4). The mean was 3.72 with a standard deviation of .45. Because of the high mean, median (4) and mode (4), the results indicate that most principals began Data Teams immediately after the initial training in 2005 which put them in the second year of implementation (4).

Attendance at Meetings

In the category of attendance at meetings, the survey choices ranged from the ideal of all classroom teachers at a grade level, principal, reading coach, special education teacher, and specialists (4) to only classroom teachers (1). Gradations between those extremes indicated less participation by some adults. Survey results indicate there was a range in attendance at meetings from classroom teachers, principal or reading coach (2) to all classroom teachers, principal, reading coach, special education teachers and specialists (4). The mean for this category was 3.27 with a standard deviation of .79. The median was 3 which indicated less participation by specialists whereas the mode was 4, indicating that specialists attended in most schools. This data show that most personnel attended meetings in most schools.

Leadership at Data Team Meetings

Descriptors for the meeting leadership category ranged from a classroom teacher (most desirable), to a Data Team leader from outside the building, the reading or math coach, or the principal (least desirable). The survey results indicate that there was a wide variation in who provided leadership at the Data Team meetings. The range spanned from 1 (principal) to 4 (classroom teachers). A mean score of 3.13 with a standard deviation of .91 indicates that for the most part leadership was at least not provided by the principal or reading coach. Leadership for meetings came from the external data team coaches (3) or classroom teachers (4). A median of 3 and mode of 4 provide support for this statement.

Follow-up to Data Team Meetings

The ideal for sharing of data and follow-up would be that the data is transparent to all school stakeholders. Descriptors for this are that the data are publicly displayed, data are shared with the principal, data are shared across grade-levels, data are shared with students, data are shared with parents, and that the staff opens classrooms to faculty walk-throughs or colleague visits. Sharing and follow-up on three to five of these descriptors were noted as a three on the survey and sharing and follow-up using one to two of these descriptors earned a two. No sharing and follow-up was noted as a one. Survey results indicate that there was a range of follow-up from only one or two of these descriptors (2) to full follow-up with all the descriptors listed above (4). The mean was 3.13 with a standard deviation of .73 in this category. This, coupled with the median and mode both at 3, indicates that there was follow-up using at least three to five different methods in most schools.

Student Involvement

In the category of student involvement, the ideal is that the resulting classroom data are publicly displayed in the hallway on charts created by students. Also, grade-level or school-wide data could be displayed in the hallway in a chart or graph created by students. Either of these descriptions fell into the four-category on the rubric. Lesser points were earned if the charts were created by teachers or if the results were only verbally shared with students or if students were not involved at all. The survey results indicate that there was a full range of responses from no student involvement (1) to full student involvement on a classroom, grade or school level (4). The mean of 2.55 with a standard deviation of 1.02 indicates this wide discrepancy as well. Median and mode scores of 3 help explain why charted results are often seen as teacher-created documents in most schools.

General Attitude toward Data Teams

Descriptors for the general attitude category ranged from essential to a waste of time and gradations between those extremes. Principals indicated on the survey that the attitude toward Data Team meetings in their schools ranged from nice, but not necessary (2) to essential (4). The mean for this item was 3.37 which was described as necessary, but not endorsed whole-heartedly. There was a standard deviation of .56. Since the mean and the mode also fell at 3, this indicates that principals described participants at most schools as seeing the meetings as necessary, but not in the stronger term - essential.

Link to Professional Development

The final survey question asked if any of the stakeholder groups viewed the Data Team meetings as linked to their own professional development. The ideal indicators would be that new teachers, experienced teachers, principal, and the reading coach all eagerly attended the meetings. If two to three of these stakeholder groups saw the link, that earned a 3. If only one of the stakeholder groups was eager to attend, that response was noted as a 2. If no stakeholder groups were eager to attend, that was recorded as a one. Survey results indicate there was a range in who eagerly attends these meetings from only one of these groups (2) to all of the groups (4). The mean for this category was 3.13 with a standard deviation of .54. Mean and mode scores both fell at 3. This would indicate that two to three of the stakeholder groups were eager to attend the meetings in most buildings (Table 1).

Table 1. *Results of Elementary Principals' Data Team Survey on a 4-Point Scale*

	Range	Mean	Median	Mode	SD
Frequency of meetings	2-4	2.34	2	2	.61
Duration of meetings	1-3	1.65	1	1	.76
Years of implementation	3-4	3.72	4	4	.45
Attendance at meetings	2-4	3.27	3	4	.79
Leadership of meetings	1-4	3.13	3	4	.91
Follow-up to meetings	2-4	3.03	3	3	.73
Student involvement	1-4	2.55	3	3	1.02
Attitude toward meetings	2-4	3.37	3	3	.56
Link to professional development	2-4	3.31	3	3	.54

Survey Results

Using a survey that required responses ranging from one to four for each category question (Appendix A), results depicted in the table above were derived by recording and analyzing the points in each of these nine categories for each of the 29 schools that completed the survey. The implementation indicators scoring the highest are noted in the categories of years of implementation (mean is 3.72/4), adult attitude toward meetings (mean is 3.38/4), professional development link (mean is 3.31/4) and member attendance (mean is 3.28/4). Also, the range for years of implementation is the smallest (3-4). These results indicate that, for the most part, schools had been trying to implement the Data Team design for 2 years, and still had a positive attitude about it because it was seen as helping teachers and leaders grow professionally. This was also substantiated in the high correlation (.656) between positive attitude toward Data Teams and the perceived link to professional development.

The category of the duration of the Data Team meetings had a mean score of 1.65 out of 4 possible points. Principals were not seeing meetings limited to 30-45 minutes. Instead, the Data Team meetings were often set during the hour allocated for monthly staff meetings or held on School Improvement Days, which tended to allow them to run more than 45 minutes.

As for frequency of the meetings, there was a mean score of 2.34 out of 4. This suggests that because the meetings were long, there may have been limited opportunity to hold them. Some schools had not built common grade-level planning time into the master schedule so the historically-established monthly staff meetings or occasional School Improvement Days offered the only available time for grade-level teams to meet.

Involvement of students in the Data Team process provided interesting results. This question had a 2.55 average out of 4 for all reporting schools and it also had the widest range of responses. This indicates that even the schools that are beginning to establish teacher-led Data Teams have not taken the implementation to its full potential, which would include students charting class and individual progress on standards. Noting that there was a high correlation between Data Team meeting follow-up and student engagement (.643 correlation), it would be a next step for schools that are meeting in teams to go full-cycle by involving students to deepen implementation.

Additionally, the range indicated on the question of leadership for the Data Team meetings is one of the largest discrepancies across the district (1-4). This shows the degree to which teacher leadership took hold in each school. If principals are still the primary initiators of the meetings, that would indicate low-level implementation.

Another aspect of the principal survey results is the correlation between the State Standards Achievement Test scores in reading and the implementation of Data Teams. This correlation became possible only because some principals chose to identify their schools on the survey. Principals in two of the three highest-scoring schools on the survey did identify themselves. These two schools (school 26 and school 34) also had some of the largest gains on the state test in reading from 2005 to 2006 (Table 2). The large gains in test results may in part be attributed to the power of the Data Team process where teachers are meeting frequently for a limited amount of time, sharing ideas, monitoring effective teaching and learning on an ongoing basis, and involving students in the process. Conversely, the two schools with the some of the lowest gains on the state testing (schools 21 and 22) had below-average implementation of the Data Team

initiative as reported by the principals. Over all the schools that were identified by the principals on the survey, there was a .586 correlation (moderate to good correlation) between the survey results and the state standards achievement test scores in reading.

Table 2. *Data Team Implementation and Gain on the State Reading Test from 2005-2006*

School	% Data team implementation	% Gain on state reading test
# 34	91.6%	20.2%
# 26	91.6%	16.4%
# 7	83.3%	13.6%
# 31	83.3%	6.9%
# 29	80.5%	17.6%
#28	77.7%	10.5%
#32	75%	11.6%
#5	72.2%	4.9%
#20	69.4%	13.4%
#1	69.4%	11.5%
#27	69.4%	2.6%
#30	66.6%	6.7%
#21	66.6%	-0.1%
#22	63.8%	2.0%
#33	61.1%	11.1%
#9	58.3%	11.3%

Note. Correlation is .586 between % Data Team Implementation and % State Reading Test Gain.

Conclusions

Conclusions are that principals initiated and supported the Data Team initiative in 2005, and that a positive attitude is conveyed about this new operating procedure in schools because participants see the opportunity for professional growth through it. The focus for the future to help sustain the momentum would be to shorten the meetings, hold them more frequently, entrust leadership for the meetings in the hands of teachers, and make it a priority to involve students in the process. Also, there is some indication that

improvement in the state reading achievement test scores may in part be linked to full implementation of Data Teams.

Question 2:How do the Stakeholders (Principal, Reading Coach, Classroom Teachers, Students) Involved in One Data Team Perceive the Implementation and Sustainability of This Initiative?

Survey Questions

The survey questions (Appendix B) were designed to evaluate the adult stakeholders' perception of the initiative. Questions inquired about (a) the benefits and drawbacks of meeting as a Data Team, (b) how participation in the team has changed their teaching, (c) the differences in the team's functioning from the first to second year of implementation, (d) how effective they were as a team, (e) how much they involved the students, and (f) parents' participation.

Also, there were questions on (g) what advice they could give to a new team starting out, (h) how losing a team member would affect them, (i) what a perfect meeting looks like, (j) if there is any change in the meetings when other people attend, (k) if they see a change in their students because of the Data Team initiative, (l) what professional resources and standards they focused on this year, (m) how they feel going into the third year of implementation, (n) what support or changes they need to keep the team functioning best, (o) if they sense 'burn out" on the initiative, (p) if the Data Teams have been worth it, and (q) how the Data Team initiative might have affected them as a person or as a professional.

Survey Results

The perception of the stakeholders as seen through their comments indicates that there are overwhelmingly more advantages associated with being in a Data Team than disadvantages. There is a sense of increased focus, uniformity and accountability. Also, there is a sense of student and teacher learning, collegiality, and efficacy that helps sustain the group and builds confidence as they continue on as a team. The negatives are limited to the amount of time devoted to this initiative, the constant focus on proficiency instead of growth, and the danger of losing a valued team member.

Focus

Because of the Data Team format, team members felt increasingly focused on the standards, individual students, results, and their own Data Team meeting time. One teacher wrote, "I like the focus the team gives me." This stands out as a real benefit to meeting as a team. With the sea of information and materials available to teachers today, it is beneficial to know that working as a team helps them focus on who and what is important within the limited time they have with students and with each other.

All team members (principal, teachers, and reading coach) were increasingly aware of and focused on standards. They indicated that this was one reason Data Teams were so beneficial to them. Both the teachers and the reading coach commented that it helped "focus on what the students should be learning," as well as "what our students need." By teaching "a particular standard at a given time," one teacher felt her "teaching is focused" and that the process "was very worth it." Data Teams pull team members back to focus on essential standards-based lesson content.

Besides the standards, team members also felt more focused on individual students because of the sorting of student evidence into the proficient and non-proficient categories. As the principal stated, "The focus after (the Data Team meeting) will be . . . how to help each student succeed." These meetings put the focus on the intersection between every student and the standards. As student behaviors can draw teachers to overemphasize or—just the opposite—overlook some students, the Data Team meetings put a spotlight on every student's learning.

The team also became more focused on results as well which the principal mentioned three times. Team members commented that, "It has kept me focused on exactly how children are achieving" (Reading Coach), as well as "confirmed my belief that all children can learn" (Principal). As one teacher summarized, "I feel like I can really help students reach certain goals and learn certain things as long as we focus on one thing and strive to reach that goal." The efficacy this veteran teacher felt points to the empowerment this format employs.

In addition, team members became aware and focused on how they conducted their meetings. They knew that they wanted them to be efficient and effective and understood when they were getting off track and how they could make meetings better the following year. A comment about going into the third year was, "I think we will be more focused on strictly Data Team business." The fact that they were willing to fine tune the process to make it work better, is a tribute to them as professionals and to the validity of the Data Team process itself.

Finally, the reading coach gained focus for staff development from attending the meetings. She commented that "(A Data Team meeting) . . . allows me to know exactly

what types of lessons or activities (the teachers) may be interested in, where to focus staff development and how I can help teachers." There certainly are other ways to gather information about teachers' staff development needs (surveys, observations, etc.), but none as engaging and authentic as participating in dialogue about student work with colleagues on a regular basis like Data Teams allow.

Although one negative aspect to Data Teams was mentioned (the focus on proficiency instead of growth), the most emphatic comment about the positive value of Data Teams came from the reading coach who said, "I want my (own) children's teacher to be data-driven and focused."

Uniformity

Besides being more focused, the team indicated that they also sensed strengthened uniformity at their school because of Data Teams. Teachers' comments mentioned having common goals, common teaching strategies and common assessments that grow out of Data Teams. One teacher also pointed out how she appreciates being able to compare her 4th graders to the others in the school. Another said "Data Teams help me better understand how important it is for staffs to be doing the same things." Ultimately, the principal stated how "it is up to all of us to provide" learning for the students. It is this common language, common teaching approach and common assessment that leads to the uniformity of education at this school or any school that adopts this design of collaboration.

Accountability

Not only were increased focus and uniformity by-products of Data Teams, but these team members noticed heightened accountability. There was accountability of the

students in terms of the school, but there was also accountability on many other fronts: accountability to their individual students as well, accountability to the principal, and accountability to themselves as a team. The reading coach commented, "We know what is working and what is not working" and a teacher observed, "I have a better idea of when and how I am succeeding or failing." The continual self-monitoring and self-reflection proved to be habitual and empowering for these team members.

Student and Teacher Learning

The Data Team members see their success both in terms of what their students have been able to accomplish, but also in an increase in their own understanding of the teaching and learning process. The principal called this the use of "shared ideas." One teacher commented on how she is "learning new (teaching) strategies" while another agreed by stating, "Teachers can brainstorm and collaborate with other teachers (who) offer fresh perspectives and different approaches." Because two of these teachers were entering the significant stages of professional growth (about 3 to 5 years of experience), and the other had dramatically changed grade levels (from high school to 4th grade), they were perhaps more open to new ideas from each other or the reading coach than some other veteran teachers might be.

Even learning the Data Team process shows growth in teachers' capacity to use data. One teacher observed, "I understand the process and thought behind Data Teams" and "I think knowing the process is key." Another teacher said, "I feel like I really know what I am doing (in) the third year (of Data Teams)" and "I've learned new strategies and methods for getting information across."

The veteran 4th grade teacher sums up her learning because of Data Teams when she said, "I see teaching differently' and "This will always be a part of me." She implies that it is not the materials, curriculum map or the teacher that drives what is taught, but the evidence of student learning of the standards as measured on performance assessments at regular intervals. She also acknowledges the supportive role colleagues play in her discovery.

As for students, the principal noted that "students feel better about their academic future" when they are charting their class or individual progress throughout the year. One teacher remarked that Data Team members should, "share individual pretest scores with students after the pretest and again before the posttest because they want to raise their scores." This impact on student learning is key.

The students' comments on their learning noted that "Having charts would help me learn better next year" and "I think these charts should be in every school." Many students listed specific skills they knew they needed help in (division, equivalent fractions, multiplication of 3's, etc.) which is also a benefit of involving students in the Data Team process. Students see learning in smaller increments and also know when they have been successful. As one student wrote, "I think it's great because it helped me keep track of my score and it tells me what I need to work on."

However, the most important reason for involving students in the Data Team process is the increase in their engagement and motivation. All 26 students reported that the charts they created and maintained (whether class charts or individual charts), were positive and motivating to them. Students commented that the charts were "really fair" and "made us work harder." Others students suggested they felt a sense of "confidence"

regarding the charts and that they liked "showing off" their progress. If students are engaged in their learning and motivated by their own success so easily by being given ownership of the documentation of their progress, it is key that they be part of the Data Team cycle.

Collegiality

Another theme that emerged from the responses was the collegiality fostered by the Data Team process. Not only were the team members seeing themselves as a team, but the principal also noted the critical factor of having "everyone . . . participate" so that all staff are respected and valued for their contribution to the school's success. Some descriptions repeated in comments to questions were the ideas of sharing, being cohesive, doing things in "common" or "the same," not feeling "alone in my struggles," and valuing the team.

A downside to being so tightly tied to a collegial culture is the inevitable departure of a team member which impacted this Data Team as one teacher's position was cut for the 2007-2008 school year. Teachers noted that they felt a "huge loss" with the exit of that teacher. Not only would this mean "one less source for ideas," but the principal commented that she brought unique "experience and fire to the team." Because relationships, both personal and professional, take time to develop, it is disheartening that budget cuts override the worth of established teams.

Efficacy

Besides the increased sense of focus, uniformity, accountability, learning and collegiality built through Data Teams, the most important theme referred to in comments centered on the efficacy that springs from a Data Team culture. This feeling of control

over personal destiny and feedback that sustains the momentum toward goals are critical factors for long-term sustainability. One teacher commented that Data Team meetings are "a habit with us now." This documents how the Data Team process has been internalized by participants and is evidence of its sustainability. The efficacy that feeds this sustainability is noted when a teacher said having the students involved "made a huge difference for me this year." A student wrote he felt "good, because I did good and my class did good and we tried our hardest," when he sees the class progress charted in the school halls and in his own personal charts.

Not only is there the reward of positive feedback seen in the charts, but the fact that the student noted "we" means the class feels collegiality, too. This exemplifies the ideal. When a class has developed into a learning community that supports and helps each other, a teacher can ask for no more. Also, when that student wrote "we tried our hardest" he is confirming that value comes in the effort which gives hope for future success and therefore makes the process sustainable.

Question 3: What Effect Has the LLC Data Team Process Had On One School's Data Team and Its Students?

Interview Results that Indicate Impact on Adults

The Data Team initiative has impacted all stakeholders. Both the adults and students commented on the positive change this process has brought to their school. The adults (principal, teachers and reading coach) felt there were multiple benefits. They gained insight into the Data Team process and understood the reasons behind it. They bonded as a team as noted in the metaphors they chose (scientists, ice cream sundae, pool filter, blender and American flag). They noticed an impact on students. They benefited

from the shared leadership model it was designed around, and they also profited from the reciprocal relationship between the reading coach and the teachers. All of these factors made the Data Team experience a positive one for these stakeholders.

Process

After implementing Data Teams for 2 years, the teachers felt they better understood the process and the reasons behind it. They commented that they felt more effective the second year because the first year "all the questions were on the process." As one teacher said, "I think knowing the process is key," and "They also felt more "on track" as one teacher mentioned, and could bring themselves back to the work at hand if they felt themselves getting "off track," because they had internalized the process.

In addition, they had taken other steps for effective implementation such as curriculum-mapping the standards and designing common performance assessments. One teacher suggested that a fledgling team might start by "making assessments early." Another stated that "curriculum-mapping was one of the best things we did." These steps allowed the meeting times to be devoted solely to looking at data and discussing effective teaching strategies as intended.

Because of their growing expertise, team members were also able to adjust the schedule for the third year, so that there was more time between official Data Team meetings and still time to collaborate on teaching strategies weekly. They commented: "we will meet less often," (we will have) "one reading and one math meeting a month," and "we will be meeting for shorter periods of time." "Now I really know what to do," confirmed one teacher.

Their insight into the process yielded increasingly effective teaching strategies, focus on standards and accountability. Their common knowledge of the Data Team process and the shared experience implementing it, allowed them to fine tune the time they spent together to the benefit of all stakeholders. All of these factors impacted the participants in positive ways as they purified the process and helped combat the one negative aspect of time allotted to the tasks.

Bond

Although the meetings were contrived and mechanical at first, the participants began to bond with each other partly because of the amount of time they spent together and also because of the common challenges they faced. Although not quite at the level of a professional learning community, several times they made references to sharing ideas, collegiality, common goals, and learning from each other. Teachers commented, "Everyone is on the same page", meetings were "opportunities to share success, failure or concerns," and "teachers can brainstorm and collaborate." Through their learning together, they became stronger and built bridges of respect for each other's talent. This common trust made them a high-functioning and supportive team, and also made them vulnerable to loss as one team member was forced to leave because of school reconfiguration. The departing teacher noted she would feel "horrible" when that happened and another teacher and principal commented it would be a huge "loss".

Efficacy

Teachers, the principal and the reading coach all commented on how they knew what to teach to whom and for how long because of the Data Team process. One teacher wrote "Teachers can measure their successes." Another suggested figuring "class

averages so you can see improvement beyond 80% success." Their sense of making a difference was documented in the student evidence before them. This perception helped to solidify the team and gave them momentum for sustaining the effort over time.

Shared Leadership

The LLC Data Team model was the vision of the district administration and a natural outgrowth of this school's leadership structure. Team members were both participants in and the beneficiaries of this shared leadership experience. Of all the Data Teams at this school, this group in particular exemplified the characteristics of effective teacher leaders. As a team, they were able to decide their own course of action by determining which standards to focus on, how to teach those standards, and how to measure whether they had been successful in doing so.

Because all of the Data Team meetings at this school were scheduled simultaneously, neither the principal nor the reading coach could attend every meeting. This 4th grade teacher team took on the responsibility of meeting on its own and working through the process with minimal support from anyone outside the group. Their efforts were recorded in the results they got from their students. The end goal of improved student achievement was not lost on "personality conflicts" (Principal comment about other teams) or seen as someone else's responsibility. The principal noted that "each team has a leader who made sure the criteria were met" and that team success "depended on the leader." This team took their challenge to heart and grew as leaders through the process.

Likewise, the reading coach, who is in a leadership position, shared her expertise as needed and did not dominate the group's discussion. She learned from them as well as

they learned from her. The supportive demeanor of the coach was welcomed. The fact that one teacher commented that there is "no change" to the group dynamics when the reading coach attends illustrated the reciprocal influence they had on each other and shared leadership at work.

Job-Embedded Professional Development

In addition to the coach's role in a shared leadership structure, by participating in Data Teams the reading coach was able to accomplish three key tasks: (a) build relationships with teachers, (b) collect ideas for staff development needs, and (c) share ideas from other teams and her own area of expertise. The Data Team meetings allowed her continual contact with teachers in the mindset of improved instruction and improved student learning. The reading coach commented, "I can check in with each grade level to know exactly what types of lessons they may be interested in." This was informal job-embedded staff development that led to focused staff development. Also, because the staff varied in experience, having the reading coach sowing seeds of successful ideas throughout the school proved beneficial to all staff members.

Metaphors

The impact of the Data Team initiative on this staff can best be seen in the metaphors they chose to describe themselves: (a) scientists, (b) a blender, (c) a pool filter, (d) an ice cream sundae, and (e) an American flag.

1. *Scientists*. The principal saw these Data Team members as scientists. She noted they are always "discovering new ways of doing things" and finding "different teaching strategies are powerful in their quest for student academic success." This is a parallel to teachers as action researchers. The

principal alludes to the careful observation, documentation and quantifiable results the team members generate through their actions.

2. *A blender*. One teacher said they operated like a blender "because (they) all take from (their) experiences, put them together and make a powerful piece by mixing and blending (their) ideas and making them one!" In this description, the teacher acknowledges the expertise of colleagues, their unity as a team, and the uniformity of instruction.
3. *A pool filter*. Another teacher took this a step farther and said the Data Team was more like a pool filter where there are "all kinds of ideas floating around and (the team) filter(s) strategies through each other and implements the best ones". Through this depiction, this teacher also points to the expert capabilities of team members and further honors their support in determining effective teaching strategies.
4. *An ice cream sundae*. From the reading coach's perspective, the team could be symbolized by an ice cream sundae. "The school is the bowl. The teachers are the ice cream and the largest portion that melts and blends ideas together. The reading coach is the topping (the extra information from outside the group). Other staff development (district or professional workshops) is the whipped cream. The principal is the cherry on the top and the students are the spoon ready to partake in the sundae (the learning experience of school)." This portrayal by the reading coach takes the whole school or district perspective. Because her role links her with reading coaches from other schools and district personnel more frequently than the

teachers are connected to these external sources, she is able to step outside the team's view.

5. *An American flag*. The third teacher equated their Data Team to the American flag in "the ideals and the melting pot that it represents." She said, "We're four people from different backgrounds coming together for a common cause. We have different ideas, different ways of seeing things, but we're united in our desires for a common end product--a group of 4th graders who are successful learners." Through this description the teacher recognizes the diversity exemplified by the team, but points to the unity and high ideals this team has for itself and the 4th grade students at her school.

All of these metaphors are dynamic symbols of the power and bond felt by the group, and evidence that the Data Team experience has deeply affected them as teachers.

Survey Results that Indicate Data Team Impact on Students

Not only has the Data Team initiative impacted teachers and leaders at this school, but the 4th grade students in their classrooms have also been affected as seen in their written comments to two survey questions. These questions inquired how students felt about the charts that they made to show their learning, and what would help them learn better next year. Examining the 26 responses, there is an increased sense of accountability, motivation and engagement. Accountability can be noted in comments such as "it helped me keep track of my score," and (you can) "see how you improved from the beginning of the year to the end." There was more motivation created by the Data Team charts students made and maintained. Comments that indicate this were, "I

like to see progress everyday of the year" and "the charts made us work harder." Finally, the responses that indicate increases in student engagement are that the charts show "I was doing better than the last time," (they) make(s) you feel confident" and the "the charts are really fair," because "it shows how much you learn." Because the ultimate goal of school is student learning, these comments are examples of the true impact of the Data Team initiative.

Crossing Data Sources

Another view of the implementation of Data Teams is from a comparison of data sources. The principals' survey and the focus group responses can be compared on three points: (a) duration of meetings (b) frequency of meetings, and (c) student involvement. On their survey, many principals indicated that the data team meetings were running more than an hour as evidenced by the low mean (1.65), median (1), and mode (1) for this question (Table 2). This school's team commented that even their 45-minute meetings were too long. The principal and reading coach stated that next year the meetings would be "30 minutes." Because staff consistently met in 45-minute meetings weekly for 2 years, they were becoming efficient enough to streamline the Data Team process.

As for the frequency issue, the principals' survey revealed that most schools were meeting monthly as indicated by the low mean (2.34), median (2), and mode (2) whereas this exemplary team met every week. This suggests that Data Team meetings may not have been frequent enough at most schools to even know what the process was supposed to look like or to build continuity. The irony of this comparison is that although these teachers have decided that official Data Team meetings will be held <u>every other week</u> in

the future, this team said they will continue to "meet once a week" to plan together and also informally "plan together at lunch" daily even though they are not required to do so. This suggests that the bond and respect they generated over their 2 years together was established and then strengthened by the frequency and duration of their collaborative time in a Data Team.

The third point of comparison is the amount of student involvement. Although the principals' noted that the teachers were predominantly creating class charts to represent class progress as noted in the descriptive statistical data for that question (mean 2.55, median 3, mode 3), one teacher said having students making the charts themselves "made a huge difference for me this year." Additionally, looking to the student survey, all the students themselves noted positive feedback about the charts. As one student commented, he "felt good because I did good and my class did good and we tried our hardest." The teacher responses and student responses point to the fact that the principals were not seeing full Data Team implementation on this key point of student involvement.

Conclusion

The findings from the survey of elementary principals indicate that overall there is a wide range of implementation of LLC Data Teams across this district (58%-92%). The data shows that 1.)most schools have been trying to implement the initiative since 2005 2.) staffs have a good attitude toward it and see it as a link to their professional development and 3.) there are a variety of staff members attending meetings including grade level teachers, the reading coach, the principal, special education teachers, etc. The areas in need of improvement are in the 1.) length of the meetings, 2.) infrequency of the meetings and 3.) the lack of student involvement in the Data Team process.

The results from the in-depth survey and interview with one team indicate that there were many more positives than negatives associated with the concept of Data Teams and that the team in the study overcame the negatives they encountered. Positive factors that impacted implementation and sustainability of the Data Team initiative include an increased sense of focus, uniformity, accountability, student and teacher learning, collegiality, and efficacy. Negatives were not reaching the 80% proficiency goal regularly, the sense of loss when a team member left, and the time allotted to meetings.

It was also noted that the Data Team process had a marked effect on both teachers and students. Team members' comments indicated they were benefiting from the implementation on many levels. They had learned a new process (Data Teams). They bonded as group and had a sense of trust that made them a high-functioning team. They perceived themselves to be more effective teachers and also in control of their own destiny because of the shared leadership structure created by Data Teams. In addition, they were beneficiaries of job-embedded staff development from their ongoing and growing relationship with the reading coach.

Concurrently, students benefited from the Data Team initiative in the areas of increased student accountability, engagement and motivation. Because student learning is at the heart of the purpose for schools, the Data Team initiative was successful. It not only measured student learning on authentic performance tasks and engaged students in the process, but also increased teachers' knowledge base and had a spiraling effect on overall school culture and student achievement. A side benefit is that state reading scores may be increased by developing this format in schools.

This study lends support to the ongoing questions in the field:

1. Does data use lead to improved teaching and learning? If so, how? (Kerr et al.,2006) Data Teams use authentic student work as data. Their collaborative discussion about that data and the support of the reading coach serve to improve teaching and learning. Progress reported on school and class charts and also increased reading scores on the state test suggest that improvement is real.
2. Do teacher and leadership development opportunities reside within ordinary work? (Little, 2003) Teachers meeting with colleagues every other week in grade level teams to discuss student work is certainly a format for teacher development within ordinary work. As for leadership development, teachers are empowered to take on leadership roles as they routinely meet within and across grades throughout the year in Data Teams. Additionally, because principals are not the Data Team meeting leaders, they are growing as instructional leaders by participating in ongoing conversations with their teachers and reading coach through the Data Team format.
3. What are the effects of collective approaches to professional development? (Garet et al., 2001) The Data Team protocol lends itself to teachers sharing expertise with each other through common discussions about effective teaching strategies. The inclusion of the reading coach elevates the conversation to a new level and interjects his/her expertise into discussion and results.

The power of Data Teams can be seen on many levels: mentoring, coaching, ongoing professional development, teacher leadership, principals as instructional leaders, accountability and sense of efficacy, student engagement, staff relationships and collegiality, action research, and the development of professional learning communities. By building support for this new way of conducting staff development and sharing leadership, one grade level at a time–one school at a time, there is hope that the critical mass needed for both school and ultimately district reform will become a shared vision made real.

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Appendix A

Data Team Survey Questions for Principals

	4	3	2	1
1. What is the frequency of meetings?	weekly	every other week	monthly	Less often than monthly
2. What is the duration of the meetings?	30-45 minutes	More than 45 minutes and less than an hour	An hour	More than an hour
3.How many years has your staff been using Data Teams?	In our second year	In our first year	In our first semester	Not really established yet
4. Who attends meetings?	All classroom teachers at a grade level Principal Reading/Math Coach Special ed teacher Specialists (art, music, PE)	All classroom teachers at a grade level Principal Reading/Math Coach Special ed teacher	All classroom teachers at a grade level Principal or Reading/Math Coach	All classroom teachers at a grade level
5. Who provides the leadership for the meetings?	Classroom teacher	Data Team leader from outside the building (ROE, CPA, etc.)	Reading/Math coach	Principal
6. What kind of sharing of data and follow-up is there after the meetings?	Data publicly displayed Data shared with principal Data shared across grade levels Sharing with students Sharing with parents Faculty walk-throughs or classroom colleague visits	Sharing/ follow-up on 3-5 of these	Sharing/ follow-up on 1-2 of these	No sharing/follow-up
7. What kind of student involvement is part of the follow-up?	Classroom data displayed in hall on chart created by students AND/OR Grade-level or school-wide data publicly displayed in a chart/graph created by students	Classroom data displayed in hall on chart created by teacher AND/OR Grade-level or school-wide data publicly displayed in a chart/graph created by teachers	Results are verbally shared with students.	Students are not involved in any Data Team results.
8. What is the general attitude about Data Teams at your building?	Essential	Necessary, but not endorsed whole-heartedly	Nice, but not necessary	A waste of time
9. Do any of the stakeholder groups view these Data Team meetings as linked to their own professional development?	New teachers Experienced teachers Principal Reading coach all eagerly attend	2-3 of the stakeholder groups are eager to attend	1 of these stakeholder groups is eager to attend	No stakeholder groups are eager to attend

APPENDIX B

Data Team Interview Questions
What are the perceptions of each stakeholder group involved in Data Teams?

1. List the benefits of being on a Data Team.
2. List the drawbacks of meeting in a Data Team.
3. Tell how being part of this team has changed the way you taught this year.
4. You have been meeting for 2 years now. Do you see a difference from last year to this year? Please explain.
    a. In how the team functions?
    b. In how the effective you felt the team was?
    c. In how much you involved the students in the process?
    d. In how much you involved the parents in the process?
    e. In other ways?
5. What advice could you give to a new team starting out?
6. How will the fact that _____ is leaving affect how the 4th grade team operates next year?
7. How will _____ feel? What contact will she have with this team?
8. What will Data Teams at your school look like next year? Any change in year 3 of implementation?
9. What does the perfect meeting look like?
10. As you begin to work with a new team member, what will you do to bring him/her into the team?
11. How many years of teaching experience do you have?
12. Is there any change in the meetings when others (principal, reading coach, sped teachers, Title I, Karen) attend the 4th grade meetings? Please explain any changes you see in the team when they attend. (Think of each separately.)
    a. Principal
    b. Reading Coach
    c. Special Education
    d. Title I
    e. Specialists (art, music, PE)
    f. District or LLC personnel
13. Do you see a change in your students since you began Data Teams?
    a. Engagement in learning?
    b. Test scores?
14. Do you see any change in your parents' involvement since you began Data Teams? Please explain.
15. What standards did you focus on this year?
16. What professional resources (books, websites, journals) did you rely on this year?
17. How do you feel about going into year 3 of Data Teams? What support or changes do you need to keep your team functioning best?
18. Do you feel there is going to be "burn out" on this initiative? Please explain why or why not.
19. Meeting as a Data Team takes a commitment of time and energy. Was it worth it?
20. How have Data Teams affected you as a person?
21. How have Data Teams affected you as a teacher/principal/reading coach?

APPENDIX C

Student Data Team Survey Questions

1. How did you feel about the charts that you were making to show your learning this year?

2. What would help you learn better next year?