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The Impact of the Data Team Structure on Collaborative Teams and Student Achievement

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The Impact of the Data Team Structure on Collaborative Teams
and Student Achievement

by

Brenda Catherine Rone

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A Dissertation submitted to the Education Faculty of
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School of Education

The Impact of a Specialized Structure on Collaborative Teams
and Student Achievement

by

Brenda Catherine Rone

This Dissertation has been approved as partial fulfillment of the
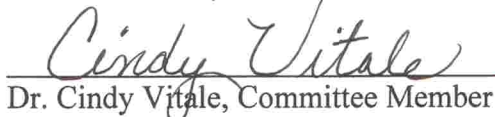requirements for the degree of
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Declaration of Originality

I do hereby and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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Abstract

The purpose of this study was to determine if implementing a specific collaborative structure would create effective teacher teams that in turn would lead to improved student achievement. An effective team can be viewed as one that uses collaboration to increase its knowledge and improve its practices. The structure that was implemented during this study was the Data Team Process. This process was implemented during the 2007-2008 school year in the Hazelwood School District in St. Louis, Missouri. Three measurement tools were used: the Five Dysfunctions of a Team Survey to assess grade level teacher collaboration, the Hazelwood School District Data Team Self-Reflection Scoring Guide to assess implementation of the Data Team Process, and Tungsten Benchmarks to assess student achievement.

This study compared fourth and fifth grade students who attended three elementary schools during the 2006-2007 school year one year prior to Data Teams to fourth and fifth grade students who attended the same three elementary schools during the 2007-2008 school year, one year after implementation. Data were collected from participating teachers regarding their perceptions of collaboration and implementation of the Data Team Process. Results indicated that the Data Team Process did not have a positive impact on developing effective teams and improving student achievement. The mean student achievement scores for the year of implementation were relatively the same as the year prior to use of the Data Team Process. The teachers' perception of effectiveness did not have a statistical variance; but, overall teachers considered themselves to be effective team members. All teams rated themselves high in fidelity to the process.

Implementation of new programs and strategies often results in initial decline or little change in performance. Recommendations for future research and practice are to continue the Data Team Process and extend the length of the study over several years to track individual student achievement. Professional development on the Data Team Process is recommended to be continued for both teachers and administrators with opportunities provided for teacher participation in various types of collaborative teams. With implementation of the suggested recommendations and adequate time, student achievement and effective collaboration should improve.

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Chapter I - Introduction

Background of the Study

In the nineteenth century, school design was simply reflecting the frugality of an agricultural economy. Rural communities had limited resources to expend on education. Students of all ages and abilities attended one-room schoolhouses with a limited curriculum. Teaching and learning consisted mainly of reading, writing or penmanship, arithmetic, and good manners. In the one-room schoolhouse, because there was only one teacher, collaboration could not exist. (eMINTS & The Curators of the University of Missouri, 2004).

According to DuFour and Eaker (1998), as families left the farm and headed to the cities, children were shuffled into education factories. Schools were organized to mimic industrial factories and assembly lines; students were the finished products. During the Industrial Revolution, public education impersonated the organizational systems used by industry. Commerce needed a compliant, submissive workforce and business looked to education to supply it. Aspects of the assembly line spread into public education. In elementary schools, students were compartmentalized by age and moved sequentially through grade levels. In secondary education, responsibilities were departmentalized in subjects, and teachers were responsible for teaching specific content and skills. With this focus on specialization, collaboration among teachers wasn't considered a necessary ingredient for student success. In fact, collaboration would only be considered an impediment to a teacher needing to become proficient in a specific content area.

As the era of factories and assembly lines came to an end, the existing public education system came into question again. DuFour and Eaker (1998) further explained

that in 1957, when the Russians launched the first artificial satellite, Sputnik, into space

Americans soon realized that the Russians were advancing on them in the areas of

science, technology, and education. The U. S. government began implementing programs

to improve education in mathematics, science, technology, and foreign language. In 1983,

under the direction of the Secretary of Education, T.H. Bell, the National Commission on

Excellence in Educating was created to examine the quality of education in the United

States and report to the nation within 18 months. The resulting report, *A Nation at Risk*

(National Commission on Excellence in Education, 1983), created a new sense of

urgency and refocused the nation's attention on the continuing pattern of inadequate

performance.

The end of the Excellence Movement gave rise to two parallel initiatives of the

late 1980s. The first initiative convened by President George Herbert Bush, and later

signed by President Clinton called for the adoption of national goals and standards (U.S.

Department of Education, 1996). Emphasis remained on the ability of U.S. students to

demonstrate high levels of competency in all core content areas as well as a continuous

development of professional skills by all educators. Responsibility for the development of

these standards volleyed between federal and state governments.

The latest educational reform and cause for alarm comes in the form of the

2002 legislation known as No Child Left Behind (U.S. Department of Education, 2002).

Provisions of this law specify that all students be proficient in reading and math by the

year 2014. State assessments are to be taken annually, with dissemination of

disaggregated data documenting the achievement of individual subgroups. The law also

specifies that classes must be taught by highly qualified teachers and that students that

attend underperforming schools be allowed limited school choice. Schools failing to meet

Annual Yearly Progress (AYP) targets for two consecutive years must offer eligible

children the choice to transfer to higher performing schools, receive free tutoring, or

attend after-school programs. Schools not performing to expectations are held

accountable. Schools identified as "in need of improvement" must provide corrective

action in accountability plans to bring about meaningful change and can undergo

fundamental restructuring if improvement does not occur over an extended period of time

(U.S. Department of Education, 2002).

The driving force behind the initiative can be seen as twofold. Advocates see the

mandate as an opportunity for all children to receive an education at high levels, while

those opposed to the legislation see it as unrealistic and an attempt to dismantle the public

education system as it is currently known. In either case, federal legislation mandates that

schools be held accountable for the academic performance of all students.

The urgency for demonstrating student proficiency has academia searching for

solutions and programs to help students meet the standards. As programs across the

spectrum are being tailored to student's individual tastes, one-size-fits-all education

seems antiquated (DuFour & Eaker, 1998). Trends are converging that make dramatic

reforms of the current system more likely. Marzano (2003) believed that the problem of

improvement was not due to lack of effort, knowledge, or students ability, but instead due

to maintaining fidelity to implementation of the reforms that research has proven

effective. Researchers such as DuFour (2004), Reeves (2004), and Schmoker (1999)

documented the effects of building learning communities to improve student

achievement. The importance of leadership style and effective team building strategies

such as collaboration, data analysis, and reflection support the implementation of learning communities.

Professional learning communities. Lortie (1975) expounded on the impact on teachers and their students as a result of the isolation experienced in the teaching profession. Feedback on practice was almost non-existent. What teachers did on a daily basis was virtually unknown to anyone but themselves. Indifference to performance affected morale and the desire to improve instructional practice. Curriculum varied from teacher to teacher, as did quality of lesson, use of instructional strategies, and accurate assessment of student achievement. Teaching, unlike other professions, provided no reason for improvement of skills. A teacher in all actuality could teach the same lesson with many of the same materials throughout his or her career. This isolation, according to Schmoker (1999), produced indifference to instruction, and literally allowed teachers to teach as well or as poorly as they liked. Perhaps this isolation also led to the apathy for dealing with factors affecting children the teacher deemed beyond his or her control.

Success in schools, more than anything else, is reflective of the quality of teaching that is provided. According to Sparks (2004), "In just one academic year, the top third of teachers produce as much as six times the learning growth of the bottom third" (p. 47). This lack of effectiveness is unnecessary and can be changed with a set of simple structures and practices known as learning communities. Professional learning communities consist of groups of teachers who share and critically question their practice in an ongoing, reflective, collaborative, learning-oriented way to promote their growth and skill. Team members meet on a regular basis to collaborate toward continual improvement in meeting learner needs through a shared curricular vision. This is an

ongoing cycle of continuous improvement, committed to reaching the school's and district's ideal mission and vision (Eaker, DuFour, & DuFour, 2002).

Isolation is essentially the obstacle to school improvement. Professional learning communities, according to Eaker et al. (2002), are the best hope for restructuring and reculturing schools. To improve, schools must (a) develop the capacity to function as professional learning communities, (b) develop a collaborative culture, (c) overcome a tradition of teacher isolation, and (d) learn to work in effective, high-performing teams.

Collaboration as an effective strategy to support learning communities. Collaboration can contribute to the success of public education and student achievement in multiple ways. Bella (2004) maintained that collaboration (a) develops trust, (b) provides professional development for teachers, (c) helps develop a clear focus, (d) generates effective strategies, (e) integrates disciplines, and (f) assists teachers in knowing all facets of a student. Bella stated that educators who use the collaborative process effectively experience a new respect for their colleagues, and not only embed it into their daily teaching but value it as a best practice for the rest of their careers.

DuFour and Eaker (1998) argued that (a) the key component to building a learning community is instilling trust; (b) collaboration provides the time needed to build relationships; and (c) ironically, as relationships are built, teacher collaboration becomes more in-depth. Trusting relationships allow true professional development to occur. Educators willingly share and try new ideas. In a non-threatening environment, teachers can participate in rich reflective dialogue and collectively review, revise, and improve teaching practices. Collaboration gives a sense that "we are all in this together" which provides motivation and hope for teachers.

Eaker et al. (2002) contended that collaboration is an important aspect of professional development, supporting the adage that two heads are better than one. Professional development gives educators the tools and knowledge needed to meet the complex needs of today's students. Many studies demonstrate that students have a variety of learning styles and their learning is affected by an array of outside factors. Practices in education change at a rapid pace. What educators learn during their college years may be outdated by the time they begin teaching. In addition, school districts, as well as individual schools, implement different initiatives to meet the needs of their particular students. In order to keep informed about best teaching practices and the implementation of new strategies, professional development and collaboration are essential.

Collaboration ensures and provides clear focus. According to Rolls (1995) collaboration can empower teachers to take a more active role in the team and school, enabling them to take a more integral role in the decision-making process. By enlisting teachers to be part of the decision-making process, the school's focus remains intact and there is greater communication and teacher buy-in.

Just as during the time of the Industrial Revolution, schools still strive to provide students with the tools necessary to be productive citizens. As technology and research continue to advance, providing students with the needed tools becomes more difficult. Therefore, collaboration provides opportunities for teachers to share information as to how to integrate disciplines and select strategies to maximize instructional time.

Reeves (2004) stated that arguably the most important aspect of collaboration is that teachers become more familiar with their students and are able to plan instruction that meets their specific needs. Since students learn in a variety of modes, knowing the

entire student is critical. In addition, teachers have many demands, such as assessing student learning, structuring learning around specific needs and "big ideas," and enabling students to construct new understanding and meaning around concepts in our world. Collaboration allows educators to pool their knowledge, experience, philosophies, and research to meet teacher demands and student needs.

Elements that inhibit collaboration. With so many positive elements, school support of collaboration would seem obvious. However, as DuFour and Eaker (1998) stated, there are several factors which prevent effective collaboration from taking place. Time, necessary training and support, insufficient buy-in, and lack of structure are a few factors that inhibit collaboration.

DuFour and Eaker (1998) maintained that lack of time could be the prevailing reason why teachers do not collaborate. Traditionally schools have not made it a priority to organize schedules and set aside time for teachers to discuss curriculum and reflect upon teaching practices and student achievement. Reeves (2004) noted that setting aside time for reflection and discussion could be viewed as unproductive and a waste of time, especially for those who prefer to teach in isolation. With the current trend of accountability, teachers are finding themselves consuming large amounts of time collecting and analyzing data, learning and implementing new practices, developing assessments, and designing lessons which align with district and state standards. Teachers are also expected to communicate regularly with parents and administrators, serve on committees, and plan and attend activity nights designed to educate and increase parent involvement. Teachers must spend time developing professional growth goals and plans,

attending workshops and conferences, and pursuing advanced degrees. All of these

obligations in addition to instructing and supervising students are deter collaboration.

The idea of schools becoming professional learning communities and utilizing

collaborative teams is a new concept for many educators. Even though the days of the

one-room schoolhouse have disappeared, many teachers continue the practice of teaching

in isolation behind closed doors. As Barth (1991) stated, "God didn't create self-

contained classrooms, fifty minute periods, and subjects taught in isolation. We did

because we find working alone safer than and preferable to working together" (p. 128). In

addition, many administrators find it difficult to relinquish power to teachers for fear

administrators' beliefs may be compromised. For collaborative teams to be effective,

Reeves (2002) found that their purpose must be explicit. Training on curriculum analysis,

common assessments, collaborative scoring, and data analysis is essential and must be

supported by administrators. Training educators on the benefits of the teaming process on

teacher and student performance in a non-threatening atmosphere may alleviate

apprehension.

(Lortie, 1975) noted differences in personality and beliefs can impede the

collaborative process. Some teachers have difficulty cooperating or are unwilling to share

their expertise. Even if there are no personality conflicts, some teachers are apprehensive

about participating collectively. If trust has not been fostered through time and support,

teachers will not participate in productive dialogue. Collaboration helps develop trust, but

extensive collaboration occurs after trust has been established.

Even though collaboration seems to increase student achievement, the strategy

has not been implemented effectively in many schools. Deterrents to collaboration cover

a wide range, some self-imposed by educators themselves and others the result of system constraints. Lack of time, supervisory tasks, school-community obligations, and prescribed instructional responsibilities detract from scheduling opportunities for teachers to collaborate. Other collaboration inhibitors include lack of buy-in, varying belief systems, lack of trust, insufficient training, and lack of consistent structure. These factors require more crafting to make collaboration effective. A balance must be struck in supporting autonomy yet providing guiding principles by which teachers can measure success. By providing a set structure, teachers can assess the effectiveness of their decisions that guide their work. The lack of a collaborating structure may be the key factor preventing focus and preventing teams from achieving their desired results.

Problem Statement

Over the past four years, three administrators in the Hazelwood School District located in North St. Louis County, Missouri, have tried to implement some form of collaborative teams in each of their elementary schools. The district supported the concepts related to collaborative teams by making data teams one of its main district initiatives beginning with the 2007-2008 school year. These data teams are grade or department level teams that meet at a regularly scheduled time to examine individual student work generated from common formative assessments. Discussions and decisions revolve around the resulting data and the effectiveness of the teaching and learning.

Effective teams are a topic that is important for various reasons. First, those who believe in learning communities feel they are the key to improved student achievement. Second, all of the schools have excellent teachers on staff and feel their expertise can help other teachers become more effective. Third, all schools have teachers who prefer to

work in isolation and do not work effectively with others (Schmoker, 2004). Having had

the opportunity to participate in and realize the benefits of effective teams, it was the

intention of the administrators involved in this study to replicate this experience for all

the teams on staff.

All involved in this project had a common goal of implementing effective teams.

To do so, the project participants had to determine the characteristics of effective teams

and how to construct a structure to develop those characteristics. Even after much

investigating it was difficult finding a definition for the term *effective* (Lencioni, 2002).

During research and upon suggestion by the Associate Superintendent of Curriculum and

Professional Development, *The Five Dysfunctions of a Team* by Patrick Lencioni was by

the administrators involved in the research. After reading this book and reflecting on

what prevented collaboration, they decided that providing the correct structure was the

key to developing an effective team. A scheduled meeting time was an aspect that would

be provided by an administrator. Providing the correct structure it was assumed, would

create buy-in, overcome personality conflicts, and provide clear focus for the team. The

project focus changed to researching structures that would positively impact teams. The

Hazelwood School District was also in the process of implementing data teams as defined

by the Center for Performance and Assessment under the direction of chairman and

founder Dr. Doug Reeves. The use of the data team process requires teams to use a well-

defined structure. Therefore, this research focused on the effectiveness of the data team

structure outlined by Besser, Anderson-Davis, and Perry, (2006), which included (a)

collecting data, (b) analyzing strengths and obstacles, (c) establishing goals and

strategies, (d) selecting instructional strategies, and (e) reflecting on results.

Purpose and Rationale

Collaboration is known to contribute to the success of public education and student achievement in multiple ways. Collaboration provides opportunities for teachers to select strategies and specific goals based on data, develop common assessments, analyze student work, and set attainable goals (Reeves, 2002).

Data will validate whether providing the right kind of continuous, structured teacher collaboration will increase student achievement as well as the quality of instruction and teacher sense of effectiveness. This study will investigate whether certain structures will transform ineffective teams into effective teams and then go on to describe the structures needed to sustain effective teams. Teams will be formed in which members are not fearful of taking risks, teachers are engaged in rich dialogue, and teams are motivated to work together until they are successful and have a positive effect on student achievement.

Research Question

Will implementing the structured data team process lead to effective teams that develop trust, engage in conflict, improve group decision-making ability (commit to group decisions), develop teacher leadership, and focus on results?

Null Hypothesis

If scores on *The Five Dysfunctions of a Team Survey* and *The Hazelwood School District Data Team Self-Reflection Scoring Guide* are high and student Tungsten scores are low, then effective collaborative then data teams will have no significant change on student achievement.

Alternative Hypothesis

If data teams are implemented with fidelity (group members will develop trust, engage in conflict, commit to groups decisions, develop teacher leadership, and focus on results), then effective teams will generate an environment promoting an improvement in student achievement as measured by Tungsten scores, results on *The Five Dysfunctions of a Team Survey*, results of *The Hazelwood School District Data Team Self-Reflection Scoring Guide*, and observation notes.

Independent Variables

The independent variables of this study included the following:

1. School Demographics - total number of students, race, gender, special needs, teacher tenure, socio-economic status, transient rates, past efforts to establish collaborative plan time, and overview of meetings.

2. Grade Level Descriptions - total number of students, race, gender, special needs, teacher tenure, socio-economic status, transient rate, brief statement regarding past efforts to establish common plan time and overview of meetings.

3. Collaborative Team Descriptions - teacher tenure, years on the team, race, gender, and personality

Dependent Variables

The dependent variables of this study included the following:

1. Increased student achievement.

2. Identification of structures which make teams effective as identified by Lencioni (2002).

3.   Effective, sustainable, and motivated teams.

Limitations in Instrumentation and Data Collection Techniques

One of the limitations of this study was movement among student populations during the year and from one year to the next. Changes may also occur among staff due to internal movement, retirement or resignation. Such change may have impact on the study. The staff at three schools participated in training for Data Driven Decision Making and Data Teams. The teams at McNair and Lawson Elementary met weekly, while teams at Twillman Elementary met twice a month. Support staff, special area teachers, and special educators were assigned to teams within each of the schools. This study compared one year of implementation of the data team structure compared to the previous year when teams were not in place. Continuing the study over a longer period of time may have increased the reliability of the study results.

Delimitations of the Study

To assure manageability of the collected data, the survey instruments used only multiple-choice responses. Due to large number of potential participants in the study, scores from fourth and fifth grade students and their grade level teachers from the schools involved in the study were selected.

Key Operational Terms for the Five Dysfunctions Survey

The set of terms below are defined according to *The Five Dysfunctions of a Team* by Patrick Lencioni (2002). They are listed in order based upon Lencioni's belief in level of importance.

Trust is the confidence among team members that their peers' intentions are good, and that there is no reason to be protective or careful around the group.

Vulnerabilities are weaknesses, skill deficiencies, interpersonal shortcomings, mistakes, and requests for help.

Productive Ideological Conflict is conflict limited to concepts, ideas, and avoids personality-focused, mean spirited attacks. It may include passion, emotion, and frustration.

Commitment is the function of two things in the context of a team: clarity and buy-in. Team members clearly understand and support a decision despite whether they may have voted against it.

Accountability is the willingness of team members to call their peers on performance or behaviors that might hurt the team.

Results are the collective goals of the group, an unrelenting focus on specific objectives and clearly defined outcomes. Goals and objectives are set by the team members themselves.

Definitions of Terms

The following terms are words that are consistently used by educators but have different meanings. Therefore, to be consistent and based upon the expertise of various experts in the field of education, the following meanings will apply.

Collaboration is the ability to work with another person towards a common goal(s) where dialogue occurs.

Common Assessments are assessments collaboratively designed by a grade level or department team that are administered to students by each participating teacher periodically throughout the year (Ainsworth & Viegut, 2006).

Common Plan Time is a period of time that is scheduled consistently for team members, usually teachers on the same grade level, to participate in professional development activities and collegial work and planning (DuFour & Eaker, 1998).

Data Teams are small grade-level or department teams that examine individual student work generated from common formative assessments. These collaborative, structured, scheduled meetings focus on the effectiveness of teaching and learning (Besser, Anderson-Davis, & Perry, 2006).

Data Team Survey is an instrument designed by the Hazelwood School District to rate the effectiveness of grade level or department data teams.

Dysfunction Survey is a diagnostic tool, designed by Lencioni (2002), for helping evaluate a team's susceptibility to the five dysfunctions: absence of trust, fear of conflict, lack of commitment, avoidance, accountability, and inattention to results.

Effective Team is a team that uses collaboration to increase their knowledge and improve their practice. They are committed to team developed goals and they plan to achieve them. Results are based on realization of team and school goals.

Professional Learning Community is a group of educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour & Eaker, 1998).

SMART Goals are goals which are specific, measurable, attainable, realistic, and timely (SMART) (O'Neill, 2000).

Structure is a detailed plan to organize a team to improve effectiveness.

Team is a group of individuals on the same grade level or department working toward a common goal.

Tungsten Benchmark Assessments are ongoing interim assessments designed by Tungsten Learning, a Division of Edison Schools, in the areas of communication arts and math, which provide regular ongoing monthly data on how students are progressing toward grade level expectations measured by state annual assessments (Edison Schools Inc., 2009).

Summary

Every child's right to a free education was a novel concept first embraced in the United States. This initial concept had exclusionary components, but eventually the need to deal with the far-reaching effects of immigration, urbanization, and industrialization came to include all children. The limited one-room schoolhouse gave way to the assembly line form of public education of the nineteenth century, which came into question with the onset of the space age and inadequacy reports such as *A Nation at Risk*. Accusations abounded that the failing education system was a threat to national security and the United State's position as a world leader. The latest cause for alarm came in the form of No Child Left Behind legislation, which holds schools accountable for the academic performance of all students.

As all academia searches for solutions to the decline of student success and the one-size-fits-all approach, researchers have documented the positive effects of

collaboration and professional learning communities to improve student achievement

(DuFour & Eaker, 1998). Effective collaborative teams with structures that (a) promote

the building of trust, (b) expect commitment, (c) allow for productive conflict, (d) tolerate

vulnerability, and (e) require reflection of results support the implementation of these

learning communities (Lencioni, 2002).

The implementation of data teams with professional development on Data Driven

Decision Making and Data Team Training may provide grade level teams with the

structure to become effective teams. Implementation of the data team process was

monitored through participation, analysis of student performance on assessments, and

examination of collected artifacts.

Chapter Two will review the literature that relates to professional learning

communities, collaboration, and effective teams. Chapter Three will present the

methodology used to examine the research of this project. Chapter Four will illustrate the

results and formulate concluding statements for this project. Finally, Chapter Five will

include discussion of results and offer recommendations for future practice and research.

Chapter Two - Review of Literature

Schools today are urgently seeking ways to help students be successful and demonstrate proficiency of grade level standards. Educators are continuously examining research-based strategies for ways to help teachers improve their pedagogical skills, which in turn can improve student achievement. Professional Learning Communities with structures in place to provide time and support for effective collaboration can promote growth and skills among teachers and students. A learning climate which fosters group collaboration and involves all the members as learners provides the opportunity for adult educators to expand and improve on their teaching skills. Within these groups, teachers and administrators can discuss how children learn and engage in productive dialogue on effective instructional strategies and authentic engagement.

Collaborative Culture

Ideas about education and reforms that questioned who, how many, and what type of children can learn has varied throughout the 20th century. Initially the idea of education for all addressed the problem brought about by the rise of large cites due to the Industrial Revolution. Schools were called upon to educate the masses of illiterate immigrants in the righteous way of Anglo-Saxon beliefs and to produce productive workers. Student success was deemed the by-product of aptitude and environment and not the result of schooling (DuFour, et al. 2004).

The educational reform movements of the 1980s began to acknowledge that what happens in schools does matter. Lezotte (1997) presented evidence which supported the notion that all students could learn and that schools controlled the factors necessary to ensure students mastered core curriculum. All too often, the solution for helping

unsuccessful students master content was doing more of the same more often and with greater intensity in a different location with a different teacher. No real innovative strategies were developed or implemented.

Due in large part to the results of high stakes testing, educators and policymakers across the country realized that there was a real need to change the quality of education in our schools. With the dawning of the No Child Left Behind legislation (U.S. Department of Education, 2002), not only must all children learn, but all must learn at high levels. Proficiency by all students is expected, even in light of challenges such as lack of resources, special needs populations, and economically disadvantaged groups. Poor facilities or at-risk communities, environments with widespread availability of drugs and alcohol, or presence of gang activity and increasing disconnect with the community are not considered viable reasons for failure to succeed.

A restructuring of schools is necessary which allows all stakeholders together to determine what is essential for children to learn. Administrators allocating time for collaboration was not enough. According to the National Association of Elementary School Principals (2008), administrators and teachers need to develop a collaborative culture in schools. This transformed view of educational reform is not a panacea for all schools but certainly can be a foundation for change, improvement, and renewal in our schools. The intended result is to develop consistent renewal of instructional methods in a supportive, professional culture that offers curriculum in an atmosphere of collegiality, trust, and shared mission. Through collaboration, team members work together to identify and apply innovative and effective practices to ensure student success.

In their research, Schein (1985) and Deal and Petersen (1999) noted parents, teachers, principals, and students seem to always sense something undefined and unique about the school they attend. Most schools have their own tone, or quality, that dictates all activity in the school. It affects the way stakeholders act, dress, what they talk about, what they never talk about, and whether they seek out other colleagues for help. The culture of a school is a vital aspect that formulates the values, beliefs, assumptions, and traditions built up over time as all stakeholders work together, deal with crises, and develop unspoken expectations for interacting and working together.

Characteristics of collaboration in a school culture. All schools are different; many schools exist as isolated work places where teachers work largely in isolation in their classrooms, interacting little with their colleagues, and keeping problems of practice to themselves. In schools in which these practices exist, teachers feel no connection among or with one another. They seldom engage in professional conversations, share ideas and strategies, or problem-solve together (Little, 1982; Lortie, 1975).

Yet in other schools, Little (1982) and Rosenholtz (1989) noted teachers engage on a regular basis in professional dialogue with one another; these teachers share ideas, knowledge, strategies, and solutions. In a collaborative school culture, the main premises are high levels of collegiality, teamwork, and dialogue about learning, problems, and teaching strategies. Teachers come together to develop shared technical knowledge and generate common solutions to challenging problems.

A collaborative school culture is a professional community of learners where teachers and administrators continuously seek and share learning and then act upon what they learn (Hord, 1997). A collaborative culture consistently implements inquiry and

acquires results. The key components of acquiring results are (a) teamwork, (b) focused

collaboration, (c) goals, and (d) selective and judicious use of data (Schmoker, 1999). A

collaborative school culture reacts well to change and actually seeks needed change to

improve student achievement. Teachers and administrators expand their capacity to

create the desired results. New, expanded, and creative patterns of thinking are nurtured.

Collective enthusiasm is set free, and people learn how to learn together. In a

collaborative culture, everyone is a learner.

Elements of collaboration. Collaboration breeds collegiality and professionalism.

Deal and Kennedy (1982) noted the climate in a school is based upon an atmosphere

identified by the social and professional interactions of the individuals within a given

school. Collegiality is more specifically viewed as serious, intense, professional

interactions. This may look like a vertical team of teachers, with teacher representation

from grades immediately above and below, openly sharing successes and failures that

have occurred while teaching strategies. Marzano (2003) stated that educators should be

open and share good results, but equally important is that poor results, in which a

majority of the class received poor grades as a final assessment, are shared as well.

During the dialogue, respect for others is demonstrated by sharing words of

encouragement as teams constructively analyze and critique procedures and practices.

This practice of collaboration does not allow social interaction and friendships to dictate

or get involved in the dialogue. It is open, honest, respectful, and insightful.

According to Quinn (1999), the following are critical dimensions of teamwork

developed through collaboration: (a) a sense of meaning, (b) a sense of competence, (c) a

sense of self-determination, and (d) a sense of impact. A collaborative culture enables the

empowered teachers to become more innovative, effective, reflective, and more influential. As a collaborative culture is nurtured and developed, colleagues gain a clearer vision and openness to other team members' ideas. Teams develop discipline and self control as well as support each other to create a sense of security. To develop a professional collaborative culture, one that truly empowers all stakeholders, a long term relentless dedication to alignment of mission, agreed-upon outcomes, focused problem solving, participation of all members, and follow-through must be continuously exhibited. Collaboration generates open staff relationships and trust building (Fullan & Hargreaves, 1991).

Practices that really support success are derivatives of collaboration. Attributes that are viewed as negative in a non-collaborative school are positive and productive assets in a collaborative school culture. According to Fullan and Hargreaves (1991), failure, mistakes, and an unclear direction are not avoided or looked over, but openly shared, discussed, and examined in order to provide support and help. They further assert, broad agreement exists on educational values, but colleagues accept disagreements and generate new dialogue.

Fullan and Hargreaves (1991) also stated, "Collaborative school cultures are places of hard work, of strong and common commitment, dedication, of collective responsibility and of a sense of pride in the institution" (p. 48). In this school culture (a) the teacher is respected as a person; (b) there is a more satisfying and more productive work environment; (c) students show improved achievement; (d) teachers have a critical eye for change, approaching it by carefully selecting and adapting elements that will aid improvement in their work while rejecting those that will not; (e) leadership is

widespread, not just within one cluster of educators; (f) the principal is nurturing and

supportive; and (g) interdependence is valued and fostered (Fullan & Hargreaves).

Collaborative cultures experience success over a period of time. The focus is on

long-term improvement. These cultures are not easy to develop but provide substantial

and meaningful settings in which teachers develop craft, knowledge, a powerful sense of

efficacy, and deep connection to fellow educators, parents, and students.

Support for collaboration. Obtaining a clear understanding of success is critical in

establishing what is valued. What teachers, administrators, and others view as success

will determine how teams spend their time, what problems they try to solve together, and

what needs their attention. To obtain common focus for collaboration, Fullan and

Hargreaves (1991) listed questions to ask, answer, and agree upon (see Table 1).

Table 1

Questions Asked, Answered, and Agreed Upon to Obtain Common Mission and Focus
_____

What is a successful year?

What will good relations with colleagues look like and sound like?

When success in school improvement is achieved, what will have been accomplished?

What socio-emotional condition s for students, parents, and teachers would you like at

your school?

What would good relationships among students, staff, and community be like?
_____

Note. From *What's Worth Fighting For?: Working Together for Your School*, by M. G.
Fullan and A. Hargreaves, 1991, Andover, MA: Regional Laboratory for Educational
Improvement of the Northeast and Islands in association with Ontario Public School
Teachers' Federation.

According to Deal and Kennedy (1982) and Petersen and Martin (1990), it is important to have a network of key players who keep communication open, ideas flowing, and information spreading in a positive manner. This network of people usually includes the gossip, the storyteller, the priest and/or priestess, and the hero and/or heroine. The *gossip* will assist in sharing the important news-sometimes rumors and sometimes key information-that is of interest to the school. The *storyteller* keeps the history of the school available to others by telling and retelling the stories of the past, especially when stories tell of hard work, collegial sharing, and collaborative work. The *priest* or *priestess* is a staff member who reinforces the traditions of the school. The *hero* or *heroine* values his or her work as an educator, is well respected, and acts in the best interest of the school. Heroes and heroines dedicate themselves to students and colleagues; they are exemplars of the core values of the culture. Sometimes heroes and heroines are highly visible; at other times, they are quiet and unassuming. All of the staff members who hold these cultural roles train new administrators and new staff members in the thinking, interactions, and belief systems that are needed to be successful in a particular school. The cultural cast is often the first to approach new staff and fill them in on how things really work around the school. In a collaborative school, that cast knows that collegiality is valued and collaboration is the norm. This group goes on to push another set of deeper questions that must be addressed. Table 2 lists the deeper questions.

Table 2

Deeper Questions Posed by the Cultural Cast in a Collaborative Culture

_____

Who are the key players?

How can the school organize exemplars (students, teachers, administrators)?

How can you connect new staff members with the exemplars?

Is the cultural network supporting collegiality and collaboration? If not, how can the

network help?

Who are the staff and administrators that can help teachers transition into a collaborative

culture?

How can an environment be provided for staff members to support collegiality and

collaboration?

_____

Note. From *Corporate Cultures: The Rites and Rituals of Corporate Life*, by T. E. Deal
and A. A. Kennedy, 1982, Reading, MA: Addison-Wesley; and "Developing Teaching
Commitment: The Role of the Administrator, by K. D. Petersen and J. L. Martin, 1990, in
P. Reyes (Ed.), *Teachers and Their Workplace*, (pp. 225-240), Newbury Park, CA: Sage
Publications.

True collaboration breeds accountability among and within the school culture.

This is heightened when teachers actively participate in the development, refinement, and

reporting of accountability. Success can be measured by identifying the academic gains

within the school culture. Reeves (2004) identified nine characteristics associated with

school success that include: (a) impact of collaboration, (b) value of feedback, (c) impact

of time, (d) action research and midcourse correction, (e) aligning teacher assignments

with teacher preparation, (f) constructive data analysis, (g) common assessments, (h) the

value of every adult in the system, and (i) cross-disciplinary integrations.

Fullan and Hargeaves (1991) noted that educators need to broaden the commitment to collaboration and community beyond the walls of the school. If public schools are to bring about significant improvements in teaching and learning, schools need to develop strong, open connections beyond school with parents, communities, businesses, universities, and other learning networks. Teachers and principals must go wider and deeper if substantial change is to be achieved. Berry (2003) also stated that collaboration must be a fixed part of the teachers' and administrators' professional leadership roles in order to facilitate dialogue, work in teams, decide by committee, and interact with an extended group of involved parents, citizens, and community and business leaders.

Barriers to collaboration. Although collaboration plays an important role in school improvement and student achievement, many components in public education inhibit effective collaboration. School structures can prevent the development of a knowledge base and condemn the idea of effective teams. Burney (2004) believed two barriers that can have a lasting effect are the thought or belief that teaching is a low skilled, low wage occupation and the belief of teachers that autonomy and creativity, not rigorous shared knowledge, is the badge of professionalism.

Barriers usually mean that the necessary components of a well-functioning team are absent. Some of these barriers are ineffective leadership, lack of clarity or disagreement about the goals, poor communication, personal agendas, team conflicts, and a fear of change and failure to work towards the same goals. Some barriers can inhibit a team from being effective, but signs can also identify an ineffective team. Some of these signs are (a) team members do not have a clear understanding or focus on the goal, (b)

the team cannot make decisions, (c) team decision-making is impaired by disagreements,

(d) team meeting attendance is low, (e) leaders are not engaged in the process, (f) team

members do not assist or support one another, (g) staff members display increased

dissatisfaction with leadership decisions, (h) individuals perform individually, and (i)

boundaries and roles are not established (Guide to Interdisciplinary Roles and

Responsibilities, 2005).

Many teachers do not feel that collaboration is supported. Teachers do not

consider their schools to sufficiently exhibit expectations of or support for regular, high

levels of collaborative involvement. Teachers' work continues to be characterized by

competition and individualism and lacks the type of trusting, caring environment that is

more conducive to collaborative practice. Leonard and Leonard (2003) stated there needs

to be greater articulation of underlying values and beliefs about educational practice that

is tempered with respect for diverse professional opinions and practices. Teachers are

dissatisfied with scheduling and appropriations of time which helps to deter collaborative

practice. Teachers need professional development directed at improving their

collaborative skills. It is essential that a school consider these findings when fostering a

culture to systematically address school improvement and student learning.

What will inhibit effective collaborative teams is merely a minor issue if

educators can find out what works in effective teams. It is agreed that what must go right

and what can go wrong must be considered by leadership teams when initiating a

collaborative working environment. Larson and LaFasto (1989) cautioned that, in order

to be effective, teams must combat frequent explanations for team failure. Team members

can easily become distracted and lose focus on goals. This is caused by political and

personal agendas that are contrary to team goals. All too often, personal success becomes the issue instead of team success.

Successful structure for collaboration. The most powerful professional development comes from on-the-job or job-embedded training. DuFour (2004) stated that collaboration and collective inquiry does not just happen. It has to be taught, expected, and a part of the everyday practice. Every teacher is a part of a team and must be provided with time to collaborate during the school day. Collaboration must focus on critical questions of teaching and learning that involve the monitoring of both individual and organizational growth. Professional learning communities is a systematic process in which teachers work together to analyze and share ideas and strategies to improve classroom practice. Collaborations during professional learning communities can lead to high student achievement.

According to Posnick-Goodwin (2007), collaborative structures enable teachers to expand their knowledge by allowing them to hear different ideas and strategies from their colleagues. They can make better decisions and increase ownership in decision-making, helping to reduce the apprehensiveness in trying new initiatives. DuFour (2004) also noted teams can produce better solutions than individuals working alone, due to the collaborative effort needed to solve problems, provide more assistance to first year teachers, and boost confidence in the insecure teacher.

Creating a collaborative atmosphere is essential to effective collaborative teaming. Collaborative teams must be implemented by grade levels that share students and content area to foster professional development. The essentials needed to foster effective collaborative teams are time for collaboration, a clear definition of the purpose

for collaboration, training and support, and participation by all team members (DuFour, 2004).

Garmston and Wellman (2002) identified five energy sources of effective groups: efficacy, flexibility, craftsmanship, consciousness, and interdependence. They noted that a unified commitment of the team is essential. Larson and LaFasto (1989) stated that all members must be dedicated, enthusiastic, trustworthy, and accountable when working as a collaborative team. They identified six characteristics of an effective team: (a) establishing a clear goal, (b) being result oriented, (c) having competent team members, (d) possessing a climate conducive to collaborations, (d) setting high standards which support all stakeholders, and (e) having principled leadership. They also point out four necessary features of a team structure: clear roles, accountability, effective communication and monitoring, and feedback. To be effective, teams and their members must display certain characteristics. These characteristics include: having the ability to perform at a high-expected level, the buy-in and strong desire to participate, and the capabilities of communicating effectively. Some of these features can be extrinsically created from the team or organization, while others must come from within the individual members.

Lencioni (2002) identified and defined his five rules of an effective team. The first rule is to establish trust. All team members must be willing to trust one another, share ideas, and be open to suggestions. The second rule is to engage in conflict. Productive conflict allows members to engage in passionate, unfiltered debate about what is needed to be successful. Meetings should not be described as boring. Team members should feel enthusiastic and excited about attending a meeting. The third rule is the

willingness to commit to group decisions. During conflict, everyone will not be satisfied. Each member must be willing to accept the fact that his or her opinion will not always be the one the group decides to support. Team members must be willing to disagree and still commit. The fourth rule is that all members of the committee must be held accountable. All team members should follow through on what is expected, and if members do not follow through, the team members must acknowledge that the goal was not met and take steps to insure that each individual achieves his or her goal. The fifth and final rule is the team must focus on results. Team members should never lose focus on what the end result should be. Results and data should drive decision-making. To be effective, team members must adhere to all five rules. If members cannot hold themselves to the standards, effectiveness is diminished.

Productive teams include teachers who do not see themselves as passive but as active members of research teams. Schmoker (2004) related that productive teams plan, design, research, evaluate, and prepare teaching materials together. As a result, teachers on the team receive high quality solutions to instructional problems, demonstrate confidence, compliment strengths and weaknesses of individuals on the team, and share a vast amount of resources for lessons, ideas, methods and materials.

According to the *Guide to Interdisciplinary Roles and Responsibilities* (2005), some strategies encourage the building of teams and, once those teams are built, strategies that allow for the maintenance of well-functioning teams. First and foremost, all individuals on the team should be well-qualified. It is important that teams have a shared focus. Effective teams regularly analyze project goals, communicate effectively, and resolve difficulties or conflicts. Teams should meet regularly and team roles should

be clarified. Each individual is an equal member of the team, and all team members

should be heard and acknowledged. Accomplishments by individual team members or

teams should be acknowledged. Conflicts or potential conflicts should be addressed.

Team members should be recognized and opportunities to meet socially should be

provided.

There are five collaborative team-guiding principles according to the Maryland

Coalition for Inclusive Education (2006) (see Table 3).

Table 3

Five Collaborative Team Guiding Principles

Participation and Leadership	All members must be viewed as equals and participation is is expected and supported.
Development of collaborative goals	Goals must be developed collaboratively to support team buy-in.
Communication	Team members must be encouraged to share ideas and concerns with other team members.
Decision making	Protocols must be developed when making decisions.
Brainstorming	Brainstorming techniques must be clear and adhered to, in order to save time.

Note. From Collaborative Teams: Structures that Promote Success, by Maryland
Coalition for Inclusive Education (2006).

Although the core structure of an effective team is obvious within the team, team

members should take an active role in the meetings by holding a position on the team as a

facilitator, recorder, timekeeper, encourager, jargon buster, or observer. Initially these

roles could take on a different name, but the jobs would remain similar. The facilitator

distributes the written agenda, moves the discussion through the agenda items, and keeps

the team focused. The recorder needs to write down the minutes of the meeting and keep

track of the time spent on each item. The encourager warmly encourages everyone to

participate. The jargon buster reminds team members when they are using words that are

of casual language often not understood by team members. The observer observes the

team action and interaction and gives feedback to the team members as a group on how

well each individual did in their assigned roles and as collaborators (Maryland State

Department of Education, 2006). With each person assuming an active role in the

process, ownership and accountability will be instilled in all team members.

History of Adult Learning

Until relatively recently, there has been only one model of learning and the

characteristics of learning upon which educators could base their assumptions about

curriculum and teaching practices. According to Knowles (1980), pedagogy, known as

the art and science of teaching children, found its roots with ancient monks during their

observations of small children learning to read and write exams. In the seventh century in

Europe, schools were designed mainly for the purpose of preparing boys for religious

service. Their principal mission was to embed already developed doctrines, beliefs, and

rituals into these young students. This concept about learning based its premise on the

notion that knowledge and skills are oftentimes transmitted in the form of drills, quizzes,

memorizing, and exams. Knowles, Holton, and Swanson (1998) contended that by using

this model, the teacher had full responsibility for making decisions about what was to be

learned, how it would be learned, when it would be learned, and asses if it had been

learned. This notion continued into the eighteenth and nineteenth centuries as schools

spread through Europe and North America and included all levels of learning, even

higher education.

In the 20th century, studies on learning were still limited to children and animals. Studies targeting adult learning, andragogy, did not surface until after World War II. Knowles (1980) noted that lack of research on adult learning is surprising considering some of the greatest teachers of ancient times--Confucius, Plato, Socrates, Aristotle, and the Hebrew prophets--were all teachers of adults. From their experiences with adults, they perceived learning to be a process of mental inquiry, a concept very different from passive intake of content. They used techniques such as posing questions and dilemmas in which group members would pool their thinking and experience to see a solution and defend it. Beginning in the 1920s, scientific research was conducted by Thorndike (1928) that concluded adults could learn, but they possessed different interests and abilities than children. Another researcher, Lindeman (1926), was concerned more with how adults learned. The key assumptions in his research were (a) adults are motivated to learn as they experience need and interest, (b) adult orientation to learning is life-centered, (c) experience is the richest source for adult learning, (d) learning should be self-directed, and (e) individual differences increase with age. Similarly, adult learners in collaborative teams are self motivated to engage in collegial conversations to discover effective strategies to improve their pedagogical skill and thus impact the success of their students.

It would seem pedagogy is for children and has a very submissive, restricted, and systematic set of beliefs to which educators feel the need to adhere. On the other hand, andragogy is for adults and is based on the belief that adults have a need to know why and what they are learning and assume responsibility for their learning. Knowles (1980), however, acknowledges the two theories can be used with either group of learners depending on the learning goals and situation. Perhaps the two theories are on a

continuum ranging from teacher-directed to student-directed learning, and both approaches are appropriate for children and adults.

Learning climate. The adult learning experience should be a process of self-directed inquiry. Galbraith (2004) noted that resources and materials be available, but should not be imposed on the learner. Learners should be active participants in their learning with an environment created to support the free flow of ideas. Participants need to be encouraged to willingly take risks, experiment, learn from their mistakes, and construct theories that can be changed and modified. The teacher should be more of a facilitator, presenting ideas and attitudes they believe in but not hold as facts or absolute truths.

To create an effective adult learning climate where participants feel accepted, attention must be paid to the physical and psychological environment. Knowles (1980) identified various aspects of an environment conducive to creating a positive learning climate. The physical climate should make adults feel at ease and comfortable. Chairs should be comfortable and temperature satisfactory. Seating arrangements should be informal with perhaps small tables or auxiliary supplies available. The décor should be aesthetically pleasing and should be neither too crowded nor spacious. The psychological climate should make the adults feel accepted, respected, supported, and free to express ideas and opinions. The climate should be collaborative, not competitive. There should be a relationship of mutual respect between participants and the instructor where the emphasis is on learning, not teaching. Attention needs to be paid to the way the participants are greeted, introduced, and treated by the instructor. All of these components contribute to the success of the adult learners. Collaborative school teams

function in the same way. The physical environment should make all members feel

comfortable and supported. The structure of the meeting should allow for the exchange

ideas and opinions in an atmosphere of respect and collegiality where the improvement of

instruction and learning are the desired result.

   Learning in groups. One of the core principles of andragogy derived from

research is the adult need to know--what will be learned, how it will be learned, and why

it is important to learn. This notion of learning because there is a need to know is best

served when adults come together in learning groups or communities having the same

basic need. Knowles et al. (1998) stated, "The core principle that adults 'need to know

why' before they engage in learning has led to the generally accepted premise that adults

should be engaged in a collaborative planning process for learning" (p. 133). Sharing

control over the learning in the form of planning, strategizing, and facilitating is more

effective than prescriptive presentation. Engaging adults as collaborative partners

satisfies the need to know how, what, and why the learning is important.

   John Dewey, perhaps the most well known educational theorist of the 20th century

according to Galbraith (2004), claimed that learning communities were neither a by-

product of educational innovation nor another educational methodology, but rather a

fundamental component of social life and growth. Further, Lindeman (1926) described

learning communities as:

   Small groups of aspiring adults who desire to keep their minds fresh and vigorous,

   who begin to learn by confronting pertinent situations; who dig down in the

   reservoirs of their experience before resorting to texts and secondary facts; who

are led in the discussion by teachers who are searchers of wisdom and not oracles.

(p. 7)

Lindeman further described these communities as a "sitting-around-a-table" group of

mature students who employ discussion as their primary methodology around real-life

situations, who share understanding gained through experience, and who consider

teachers as fellow inquirers. It is through this environment for learning that the adult

learner meets their needs and achieves their goals. As with collaborative teams teachers

come together to seek support and suggestions from colleagues to help them be more

effective. Through an exchange of ideas gained from prior knowledge and experience,

members find solutions to obstacles preventing them from achieving their goal of

improved student achievement.

Involving the learner. Knowles (1980) stated the primary goal of every adult

educator is to help individuals satisfy their needs and achieve their goals. Oftentimes

these goals are stated in terms of developing a new competence or perhaps meeting

standards for advancement which includes a monetary gain. While significant, these

goals fall more into the realm of wants and interests rather than needs. Gone are the days

when what was learned as a youth sufficed throughout one's life span. In today's fast-

paced world, the goal of an adult educator is to help individuals realize that learning is a

lifelong process. Each experience should heighten curiosity to carry on learning and help

adults develop their full potential. Adult orientation to learning is more life-centered.

They either perceive learning as a way to perform better or deal with life situations more

effectively, or they are intrinsically motivated to keep growing and developing.

In the workforce, Knowles, Holten, and Swanson (2005) addressed the issue of control-organizational versus individual as useful in exploring the role of adult learning in human resource development. There is some debate as to whether the goal of human resource development should strictly be designed for performance improvement, as it relates to the organization, as opposed to fostering opportunities for learning in and of itself. Upon examination, the two views may complement each other. When the adult learning takes place and is practiced within the organization, a mutual benefit occurs. Likewise, when collaborative teams work effectively learning is enhanced both for the teacher and the students. This line of thinking coincides with the beliefs of Mary Parker Follet, management pioneer, consultant, and guru in the field of organizational theory and behavior, who expounded on the notion of power-with versus power-over. Using her theory, when organizations share power with workers, they become a more functional unit with both sides receiving the benefit (Graham, 2003). The structure of collaborative teams parallels this notion of power-with versus power-over whereby members have assigned roles, but all have equal power within the team. The administrator serves as an additional member of the team allowing teachers to arrive at decisions regarding effective practice.

Adult learning was defined by Knowles (2005) "as the process of adults gaining knowledge and expertise" (p. 124). He goes on to identify four phases adult learners go through in an effort to control their learning including (a) determining what learning is needed, (b) creating a strategy to achieve learning goals, (c) implementing the strategies, and (d) evaluating the attainment of the learning goal. Throughout this process, the learner is an active participant in the development of their learning.

History of Pedagogy

Pedagogy, a term derived from the Greek words *paidion* (meaning, child) and *ago* (meaning, to lead), literally means the art and science of teaching children. According to Knowles (1980), its set structure of beliefs originated between the seventh and twelfth centuries from religious schools out of their experience teaching basic skills to young boys. Knowles (1998) noted this pedagogical model assigned all responsibility for decision-making about what was to be learned, how and when it would be learned, and how the learning would be assessed to the teacher. Content was typically presented in a one-size-fits-all fashion usually in the form of lecture, content reading, and seatwork. Memorization, drills, and repetitive skill work were some of the basic strategies used. All education was teacher-directed, with the students' role to be totally submissive. With the spread of schools throughout Europe and North America and the rest of the world, this model was adopted and reinforced. Even for most of the nineteenth century, our entire educational system, even higher education, was fixed in the model. Not until the late twentieth century, with social cries for accountability and improved student performance was attention paid to strategies that would improve learning and to how the students themselves have to be engaged participants in their learning.

Effective teaching strategies. Around the 1970s, researchers began taking a new look at the effects of instruction on student learning. Marzano, Pickering, and Pollock (2001) noted that the 1960s was marked by the belief that school made little difference on student achievement. The now-famous report, Equality of Education Opportunity, commonly called the Coleman Report (Coleman, et al., 1966), stated that the quality of schooling had only about a 10% effect on student achievement. Data were collected and

analyzed from over 60,000 students, 6,000 teachers, and 4,000 schools. The conclusion maintained that no matter how good or bad was the quality of school and its teachers, the school environment made only a ten percent difference in student performance. Two decades later serious flaws were noted in the report's findings. Instead of looking at percentage gains, a more meaningful interpretation was derived by looking at percentile gains. Review of the data indicated that the quality of the school does impact student achievement and individual teachers can have a powerful effect on student success. A ten percent gain by an average student in a good quality school could equate to a 23 percentile point higher gain than a student in a poor quality school (Marzano, et al., p. 2). Within a school there can be a great variation in teacher effectiveness. If the strategies used by highly effective teachers can be identified then greater gains can be achieved. Collaborative teams provide the opportunities to teachers to discuss these strategies and talk about how to implement them effectively in their lessons.

Marzano et al. (2001) compiled a list of the nine most effective instructional strategies based on results from selected research studies in kindergarten through grade 12 classrooms. The technique of meta-analysis was used to combine results from several studies to determine the average effect of a given strategy. Results were translated into effect size, which expressed the increase or decrease in achievement, for the tested group. Effect sizes were translated into percentile gains for interpretation of the possible benefits of each study. The nine instructional strategies (Marzano et al., 2001) in order of effectiveness research are

1. Identifying similarities and differences

2. Summarizing and note-taking

3. Reinforcing effort and providing recognition

4. Homework and practice

5. Non-linguistic representation

6. Cooperative learning

7. Setting objectives and providing feedback

8. Generating and testing hypotheses

9. Cues, questions, and advance organizers

These strategies work in all content areas in all grade levels and, if used effectively, have a high probability of improving student achievement.

Student engagement. High quality teachers using research based strategies cannot improve student achievement alone. Schlechty (2002) stated, "Schools cannot be great by great teacher performance. They will only be made great by great student performance" (p. xiii). Teachers have tried a variety of approaches to improve student performance ranging from bribes to threats to pleading. Principals have tried the same tactics on teachers to improve student scores by offering merit pay, evaluations, and various monitoring schemes. None of these strategies sustain success over time. Instead of teachers trying to motivate students and principals trying to motivate teachers, the key should be to work on the tasks given to students. Schlechty (2002) also asserted, "The key to student success is to be found in identifying engaging schoolwork for students" (p. xiv).

In an earlier work, Schlechty (2000) identified five types of engagement responses that students might make in response to any task. Students may respond with (a) authentic engagement in which outcome has clear meaning for the student, (b) ritual

engagement in which learning has no inherent meaning except for extrinsic outcomes, (c)

passive compliance where students complete the task to avoid confrontation, (d)

retreatism in which the student does not become involved with the task but does not

inhibit others from completing the task, and (e) rebellion in which the student refuses to

complete the tasks and interferes with other students' learning. To increase engagement,

motivation of the student and their need to respond to the activity must be addressed.

Harmin (1994) addressed the shrinking attention span of today's students and the need to

create high involvement lessons. His research on active learning suggested a framework

for lessons which include (a) action flow lessons organized so they flow smoothly with

high student involvement, (b) quick paced lessons to keep all students involved, (c)

scaffolded lessons, layering topics and activities that are revisited with mastery occurring

over time, and (d) lessons of limited variety to keep student interest but not so diverse to

confuse and unsettle students.

Engagement precedes learning and improvement. With the work of skillful

teachers who know how to create lessons that are authentic, motivating, well-paced, and

varied, and who are able to sustain this type of work student performance will improve.

Improved teacher performance leads to improved student performance and collective

school improvement. In a team setting teachers can collaboratively design lessons which

are authentically engaging, well-paced, and provide the type of research-based strategies

that will improve student performance.

Summary

Schools face many complex challenges that require educators to "put their heads

together" to reach the best possible solutions. A review of the framing literature indicated

that collaboration is not a common practice in many schools. This may not be the fault of educators, but instead, a system design flaw. Lack of belief, lack of leadership, and system constraints are just a few factors inhibiting collaboration. Collaboration can flourish with strong instructional leadership. Perhaps, administrator and teacher leadership should develop an environment that encourages collaboration. There is evidence that by increasing capacity in all educators, leadership is developed throughout the system. The data team structure could create an environment that encourages collaboration and combats many of the factors that inhibit collaboration. Data teams could generate a clear focus and help educators realize the need to work together. The data team process outlines the essential steps that can act as a guide for an effective team and provide the structure for collaborative practices. The data team process outlines clear roles, an accountability system, an effective communication network, and a feedback loop. Data teams may create shared learning that should ultimately result in higher student achievement.

Within a collaborative structure, opportunities could be available for self-directed adults to participate in an environment which encourages the free flow of ideas, supports risk-taking, and allows previous theories to be changed and modified. Collectively, highly engaged lessons can be designed that include effective research-based strategies resulting in improved teacher and student performance.

Chapter Three - Methodology

The purpose of this study was to determine whether providing the right kind of continuous structured teacher collaboration would increase student achievement significantly, as well as the quality of instruction and teacher sense of efficacy. The study determined if the data team structure, when implemented with fidelity, would transform ineffective teams into more effectual teams with sustainability. In working with these structures, teams could be created in which members are not fearful of taking risks, teachers could be engaged in rich dialogue, and teams could be motivated to work together until they are successful.

Since 2004 several administrators within the Hazelwood School District have tried to implement effective grade-level teams within their schools. They believed that learning communities based on research was key to student achievement. Each school had some excellent teachers on their staffs, and they believed collaboration would help all teachers become exceptional. Each school also had teachers who worked individually and did not work effectively with others. Several of the administrators in the study had previous experience with effective teams and realized the benefit of collaboration. Their goal was to replicate this positive experience for each school.

The administrators dealt with the aspect of providing time for teachers to collaborate by creating rotating schedules with built-in, daily 50-minute blocks of common time. One administrator with more sections provided an after-school time slot by making adjustments to staff meeting schedules or compensated time. The focal point then became providing the correct structure that would create buy-in, overcome personality conflicts, and provide a clear direction for teams.

After four years of working with standards-based instruction and data-driven-decision making under the direction of Dr. Doug Reeves from the Center of Performance Assessment, the Hazelwood School District implemented data teams as a district-wide initiative beginning with the 2007-2008 school year. The use of the data team method as outlined in the Data Team manual and training required teams to use its well defined five-step process. The focus of the data team process was on specific teaching, curriculum, and leadership practices that impact student achievement. The structured time allowed teachers and leaders to collaborate effectively in selecting and implementing those actions that would improve student performance. It was not an exercise in classifying or evaluating teachers. It was also not an exercise in number crunching. The spirit of the process was one of continuous improvement and a no-fault reflection on educational practice (see Table 4).

Table 4

Five Step Data Team Process

Step 1	The team collects and charts data collected from a common formative assessment generated by the team.
Step 2	Strengths and weaknesses are analyzed using student work. Trends, patterns, misconceptions, and lack of proficient levels of skill application are discussed.
Step 3	The team sets goals and makes revisions as necessary. The set goals are based on goal criteria that is: specific, measurable, attainable, realistic, and timely (SMART).
Step 4	The team examines a list of effective instructional strategies and techniques to determine which methods will have the desired outcome. The team agrees upon the selected strategies and the manner in which they will be implemented by the entire team.
Step 5	The team determines the result indicators expected upon implementation of the previously selected strategies.

Note. From *Data Teams,* by Besser, L., Anderson-Davis, D., & Peery, A., 2006, Engelwood, CA: Advanced Learning Press.

The teams met at regularly scheduled times with the number of members ranging from four to seven. They were comprised of grade-level teachers, special area teachers, and special education teachers. Additional team members who attended regularly or on a rotating basis included such positions as literacy coaches and reading specialists, media center specialists, principals, and assistant principals. A teacher from the team served as the team leader. The roles of the other team members included recorder, focus monitor, timekeeper, and engaged participants. These assignments would rotate yearly.

The team selected an area they were concerned about in their grade level as a result of examining other data available such as benchmark assessments, state assessments, and quarterly assessments. The team designed or chose existing common formative assessments to give as both a pre- and post-test. These artifacts were brought to the team meeting for analysis.

Research Setting

District description. The Hazelwood School District is located in North St. Louis County, Missouri. It is the second-largest district in the St. Louis Metropolitan Area covering 78 square miles. It includes the communities of Hazelwood, Black Jack, Spanish Lake, as well as portions of the cities of Florissant, Bridgeton, Bellefontaine Neighbors, and Ferguson. It also includes areas of unincorporated St. Louis County.

In 2006 the Hazelwood School District had 19,556 students enrolled in kindergarten through twelfth grade (Missouri Department of Secondary and Elementary Education, 2007). Students are educated in three high schools, six middle schools, and twenty elementary schools. The Hazelwood School District has more diversity than many of the districts within the state. Of the 19,556 students, 62.3% are Black, 35.5% are

White, 1.3% are Hispanic, 0.9% are Asian, and 41.1% students qualify for free and

reduced-price lunches. Ninety-nine percent of the teachers within the district are Highly

Qualified as defined by No Child Left Behind. The average experience of professional

staff is 10.4 years. District Communication Arts Missouri Assessment Program (MAP)

score data indicates proficiency of 48% of fourth grade students and 46% of fifth grade

students. The high district transient rate of 71% for grade levels seventh through twelfth

is a challenge for educators tracking student progress.

School descriptions. McNair, Lawson and Twillman Elementaries are three of the

twenty elementary schools in the Hazelwood School District serving students in

kindergarten through fifth grade. Each school operates on a traditional nine and a half

month school calendar.

McNair Elementary School is positioned in the west section of the Hazelwood

School District. It is located in Hazelwood, Missouri in the center of a residential

neighborhood where the majority of the students live within close proximity to the

school. More than 75% of the students are either car riders or walk to and from school.

At the time of this study, McNair Elementary School had an enrollment of

approximately 430 students. Historically, McNair has had a very stable student

population: however, in recent years, the student population has become more diverse

and transient. The student population was ethnically and economically diverse, comprised

of 71.2% White, 22.7% Black, 5% Hispanic, and 1% Asian students. Approximately 40%

of the students were eligible for free or reduced-price lunches.

The teaching staff was comprised of 21 general education teachers: two reading

teachers, one resource teacher, one self-contained teacher, one English Language Learner

teacher, and one speech/language teacher. In addition, the McNair staff had one

administrator, one instructional specialist, and one counselor. Class sizes ranged from 16

to 27 students per classroom with the student-to-teacher ratio 20:1. One hundred percent

of McNair teachers were considered highly qualified as defined by No Child Left Behind.

The average experience of the professional staff was 11.4 years and 62% had advanced

degrees. McNair Communication Arts MAP score data indicated 38% proficiency among

fourth grade students and 40% for fifth grade students. The school's transient rate was

40% for the 2007-2008 school year.

Lawson Elementary is located in Florissant in the west side of the district. It had

sixteen general education classrooms, two autistic classrooms, two hearing-impaired

classrooms, and one special education resource classroom. At the time of this study,

Lawson served an ethnically and economically diverse population of 325 students, with

68.6% White, 28.3% Black, 2% Hispanic, and 1% Asian. Thirty-seven percent of

students qualified for free and reduced-price lunches. Lawson had one principal and a

student-to-teacher ratio of 17:1. One hundred percent of Lawson teachers were

considered highly qualified as defined by No Child Left Behind. The average experience

of professional staff was 14.1 years. Sixty-eight percent of Lawson's teachers held

advanced degrees. Lawson Communication Arts MAP score data indicated proficiency of

40% of fourth grade students and 47% of fifth grade students. Lawson's transient rate

was 46%.

Twillman Elementary is located in Spanish Lake on the east side of the district. At

the time of this study, Twillman had 23 general education classrooms, two autistic

classrooms, and one special education resource classroom. Twillman served a

significantly less diverse population of 416 students, with 1.6% White, 97.5% Black, 0.5% American Indian, and 0.9% Asian. Ninety-two percent of students qualified for free and reduced-price lunches. Twillman had one principal, an assistant principal, and a student-to-teacher ratio of 18:1. One hundred percent of Twillman teachers were considered highly qualified as defined by No Child Left Behind. The average experience of professional staff was 8.4 years. Forty-one percent of the Twillman staff held advanced degrees. Twillman Communication Arts MAP score data indicated proficiency of 45% of fourth grade students and 29% of fifth grade of fifth grade students. Twillman's transient rate was 54%.

Grade level team descriptions. Fourth-and fifth grade-level teams from McNair, Lawson, and Twillman Elementary Schools in the Hazelwood School District were targeted for the purposes of this research. All teams consisted of highly qualified teachers as defined by No Child Left Behind. Five of the seven fourth-and fifth-grade teachers at McNair were tenured, and four of them held advanced degrees. All but one of Lawson Elementary's fourth- and fifth-grade teachers were tenured and held advanced degrees. At Twillman Elementary, only one of the fourth-and fifth-grade teachers was tenured, and none of them held advanced degrees.

Changes in grade-level teams were made at all three schools at the beginning of the 2007-2008 school year. Two of the four members of the McNair fourth-grade team were new to the team. The fifth-grade team had worked together for two years. The fourth-grade teachers at Lawson Elementary worked together as fifth-grade teachers the previous two years before moving to fourth grade. The fifth grade teams at both Lawson

and Twillman Elementary were newly formed at the beginning of the school year (see

Table 5).

At McNair Elementary, the fourth-grade teaching team consisted of 4 teachers, 3

White females and 1 White male. All teachers were highly qualified as defined by No

Child Left Behind. Teacher A was tenured and had been teaching sixth or fourth grade

for the last four years at McNair. Previously she taught fifth grade for four years at

another Hazelwood school before transferring to McNair. She had a total of eight years of

teaching experience. Teacher B, a non-tenured female teacher, taught sixth grade for

three years before moving to fourth grade that year. She had a total of four years of

teaching experience. Teacher C was a non-tenured female who was completing her

second year of teaching. She taught sixth grade before moving to fourth grade. Teacher

D, a male, was tenured and had been teaching sixth or fourth grade for the last four years

at McNair. Previously he taught fourth and fifth grade levels for three years at another

Hazelwood school before transferring to McNair. He had a total of seven years of

teaching experience. Teacher A recently completed an advanced degree in Elementary

Education with reading certification, while teacher B was working on an advanced degree

in counseling. This team worked together for one year at the fourth grade level. Teachers

A, B, and D worked together in sixth grade during the 2005-2006 school year. Teacher B

and C worked together in sixth grade, one year before moving to fourth grade for the

2007-2008 year.

At Lawson Elementary, the fourth-grade teaching team consisted of two teachers,

1 White female and 1 Black male. All teachers were highly qualified as defined by No

Child Left Behind. Teacher A, a female, was a tenured fourth-grade teacher who had

been teaching fourth or fifth grade at Lawson for 18 years and had a total of 21 years of teaching experience. Teacher B, a male teacher, taught fifth grade for two years before moving to fourth grade. Teacher A held an advanced degree in Special Education and teacher B was working on an advanced degree in Elementary Administration. This team worked together for two years in fifth grade before moving together to teach fourth grade.

At Twillman Elementary the fourth-grade team consisted of three teachers, 1 Black female, 1 Black male, and 1 White female. All teachers were highly qualified as defined by No Child Left Behind. Teacher A, a Black female, was non-tenured, had been teaching fourth grade at Twillman for three years, and had been teaching for a total of 10 years. Teacher B, a Black male teacher, taught first grade at Twillman before moving to fourth grade for the 2007-2008 school year. He had been teaching for two years. Teacher C, a White female, had taught three years at Twillman with the last two at the fifth-grade level. Although the fourth-grade team shared a lot of talent and potential, none of them had pursued advanced degrees at the time of this study.

The fifth-grade team at McNair consisted of three teachers; all were White females with advanced degrees. They had worked together as a team for the prior two years. All teachers were highly qualified as defined by No Child Left Behind. Teacher A had 13 years of teaching experience, all at McNair. She had experience at third and fourth grade but had taught at the fifth-grade level for the prior six years. She had earned an advanced degree in Elementary Education. Teacher B had taught fifth grade for five years at McNair. She previously taught third and fourth grade at another Hazelwood school before transferring to McNair. She had a total of nine years of teaching experience. Teacher B had completed an advanced degree in Elementary Education and was working

on library certification. Teacher C had nine years of experience all at McNair. She had previously taught at the third- and fourth-grade levels, but had taught fifth grade the last two years. Teacher C had an advanced degree in Elementary Administration.

The fifth-grade team at Lawson consisted of three teachers, all of whom were White females. All teachers were highly qualified as defined by No Child Left Behind. Teacher A had six years of teaching experience at Lawson Elementary and 20 years of total teaching experience. Teacher B had five years at Lawson Elementary and 10 years total experience teaching. Teacher C had taught at Lawson Elementary for seven years. All three teachers were tenured and held advanced degrees. The team was newly formed during the 2007-2008 school year.

The fifth-grade team at Twillman consisted of three teachers, 2 White females and 1 Black female. All teachers were highly qualified as defined by No Child Left Behind. Teacher A, a White female, was pursuing an advanced degree in counseling and had taught fifth grade at Twillman for five years. Teacher B, a White female, was a certified Reading Specialist and had worked at Twillman two years prior as a Reading Specialist. She had looped with her students and taught fourth grade the previous year. She had been teaching for six years. Teacher C, a Black female, was pursuing an advanced degree in administration and had taught fifth grade at Twillman for two years. She had been a certified teacher for four years. Changes in grade level teams were made at all three schools. All four members of McNair's fourth grade team were previous sixth grade teachers at McNair, but this was their first year working together as a fourth grade team. The fifth grade team had worked together for two years. Although the teachers at Lawson had worked on the same team in the past, grade level changes were made so team

members were new to either their team or grade level. Both Twillman grade levels were

newly formed in 2007-2008, with this being their initial year working together as a grade

level team. Table 5 illustrates the teacher comparison.

Table 5

Comparisons of McNair, Lawson, and Twillman Teacher Teams

Elementary Schools	McNair		Lawson		Twillman	
Number of Teachers	7		5		6	
Fourth Grade Teachers	4		2		3	
Fifth Grade Teachers	3		3		3	
Race	**Black**	**White**	**Black**	**White**	**Black**	**White**
Fourth Grade Teachers	0	4	1	1	1	2
Fifth Grade Teachers	0	3	0	3	1	2
Gender	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
Fourth Grade Teachers	3	2	1	1	2	1
Fifth Grade Teachers	3	0	3	0	3	0
Tenure						
Fourth Grade Teachers	2		1		0	
Fifth Grade Teachers	3		3		1	
Advanced Degree						
Fourth Grade Teachers	1		1		0	
Fifth Grade Teachers	3		3		1	

Grade level student descriptions. McNair's fourth and fifth graders comprised 42% of the students in this study compared to 29% each from Lawson and Twillman Elementarys. Sections varied among the fourth-grade level in the three schools. McNair had four sections in its fourth grade, while Lawson had two, and Twillman had three. All three schools had three sections in their fifth grade. Student-to-teacher ratios varied from 17:1 in Twillman's fourth grade to 28:1 in McNair's fifth grade (see Table 6).

Differences were also noted in racial/ethnic composition, students eligible for free and reduced-lunch, students receiving special education services, and English Language Learners. McNair's racial/ethnic composition consisted of 67% White, 27% Black, and 6% other. Lawson's make-up consisted of 56% White, 41% Black, and 3% other, compared to Twillman's population where 100% of students were Black. The percentage of students qualifying for the free and reduced-price lunch program was 47% at McNair, 42% at Lawson, and 72% at Twillman. Twenty-five students from McNair in the study received special education services, and 19 each from Lawson and Twillman. The English Language Learners group was small in this study with 10 participating from McNair, three from Lawson, and none from Twillman.

Table 6

Comparison of McNair, Lawson, and Twillman Students

Elementary Schools	McNair			Lawson			Twillman		
Number of Students	430			325			417		
Fourth Grade Students	74			51			51		
Fifth Grade Students	86			59			58		
Ethnic Composition	White	Black	Other	White	Black	Other	White	Black	Other
Fourth Grade Students	45	24	5	29	21	1	0	51	0
Fifth Grade Students	62	19	5	34	23	2	0	58	0
Gender	Male	Female		Male	Female		Male	Female	
Fourth Grade Students	34	40		31	20		29	22	
Fifth Grade Students	40	46		30	29		28	30	
Free/Reduced Lunch									
Fourth Grade Students	28			19			36		
Fifth Grade Students	47			27			43		
Special Needs									
Fourth Grade Students	14			8			10		
Fifth Grade Students	11			11			9		
Gifted									
Fourth Grade Students	9			2			5		
Fifth Grade Students	5			3			2		
English Language Learners									
Fourth Grade Students	4			2			0		
Fifth Grade Students	6			1			0		

Sampling Procedure

This research study applied the two sample independent t-test to compare the average difference on Tungsten Communication Arts scores between fourth and fifth grades at three different elementary schools during the 2006-2007 and the 2007-2008 school years. The researcher analyzed the disaggregated data of the three schools involved in the study. From the results of the t-test, the researcher determined if the alternative hypothesis would be accepted or rejected.

This study also included a qualitative closed, fixed response survey to be completed by all fourth and fifth-grade teachers from the three participating schools. The teachers were presented with the pre-and post-dysfunction survey to compare perceptions of their effectiveness as individual members of the team before and after the study. Teachers were identified by grade level and assigned a number. Since a pre-test/post-test survey was administered, a dependent t–test, also called a paired t-test was administered (Runyon, Coleman, & Pittenger, 2000).

The third measurement used was the Hazelwood School District Data Team Self Reflection Scoring Guide modified by Dr. Mary Piper, Associate Superintendent of the Hazelwood School District with permission from Dr. Doug Reeves, who had worked with the district for five years. The scoring guide was designed for teams to evaluate their degree of team implementation in thirteen areas. The reflection was made at the beginning of the school year and again at the end of the first year of implementation. Throughout the study, qualitative data was also collected. Observation notes were taken on the collaborative team process and interactions among team members. Data team agendas, meeting minutes, and charted results were reviewed.

Research Design

The researcher used a quantitative casual-comparative approach to the design of this study. The researcher collected, studied, and analyzed data and determined if there was a casual relationship existed between providing continuous, structured teacher collaboration for student achievement to increase, as well as improvement in the quality of instruction and professional morale. The researcher also tried to discover if certain structures transformed ineffective teams into more effective teams which had sustainability. In working with these structures, teams were created in which members were not fearful of taking risks, teachers were engaged in rich dialogue, and teams were motivated to work together until they were successful.

The researcher examined assessment data collected over a two-year period and behavioral data collected during the 2007-2008 school year. Data collected for the study consisted of Tungsten Communication Arts scores for fourth- and fifth-grade students over a two-year period, pre/post individual teacher surveys, and team pre/post scoring surveys. Additional data collected consisted of observational notes by the researcher, team agendas, and data team minutes. The following ten steps describe in detail the professional development, structure implementation, and the collection of pre-and-post data utilized throughout the year of the study.

1. Train data teams. Data team training consisted of training staff members on the purpose and process of data teams (Appendix A). Administrators and team leaders were trained in June, 2007. Team leaders were selected by building administrators. McNair, Lawson, and Tillman's administrators chose one

classroom teacher from each grade level to be a team leader. Due to a limited

number of data team trainers, McNair, Lawson and Twillman provided staff

training at different times. McNair and Lawson staffs were trained on August

8, 2007. Twillman's staff was trained on September 14, 2007.

2. Develop building schedule. McNair, Lawson, and Twillman's building

schedules were developed in May 2007. However, after being trained in the

data team process, schedules were revised in July, 2007, to accommodate data

team meetings.

3. Assign staff to data teams. Data teams consisted of classroom teachers from a

particular grade level. In addition, other specialized educators could be

assigned to data teams. McNair, Lawson, and Twillman assigned specialized

educators (art, music, physical education, reading, and special education

teachers) to data teams. All three schools assigned the specialized educators to

data teams based on their availability and amount of exposure with the

students on a particular grade level. McNair and Lawson's data teams were

finalized on August 14, 2007. Twillman's data teams were finalized on

September 17, 2007.

4. Conduct first data team meetings. McNair's and Lawson's data team meetings

began the week of August 13, 2007. McNair's data teams meet on Tuesday of

each week. Lawson's data teams met every four days. Twillman's data-team

meetings began the week of September 17th. Twillman's data-teams met two

times per month.

5. Conduct team leader meetings. Team-leader meetings consisted of each data-
    team leader who met with the building principal and instructional specialist
    one time per month. Twillman also included an assistant principal during
    team-leader meetings. McNair and Lawson did not have assistant principals.
    Team-leader meetings focused on the implementation of the data-team
    process and steps that needed to be taken in order to make the process
    successful. In addition, each team leader shared what goals their team had
    focused on and what data they had collected during the past month.

6. Collect Communication Arts Tungsten data. Tungsten is a computerized
    formal assessment that correlates to the MAP. It is administered monthly,
    September through May. In May 2008 the researcher collected data from 2006
    to 2007 and 2007 to 2008 School-wide Longitudinal Reports by Subject from
    all three schools. Tungsten results in Communication Arts were compared
    using a paired t-test to determine if the data team process had any effect on
    student achievement.

7. Administer Five Dysfunctions of a Team Survey. The Five Dysfunction of a
    Team Survey (Appendix B) indicates behaviors a team has or behaviors that
    need to be developed to be an effective team. All three schools administered a
    pre- and post-test. Surveys were numbered and completed by all teachers
    participating in the study. McNair administered the survey the week of
    October 16, 2007, while Lawson administered the survey the week of October
    1, 2007. Twillman administered the survey the week of November 5, 2007.
    The Five Dysfunctions of a Team Survey was administered again by all

schools in April, 2008. Results from the pre-and post- surveys were collected to determine if the data team process had any effect on collaboration (Appendix C).

8. Administer Hazelwood School District Data Team Self-Reflection Scoring Guide. The Data Team Scoring Guide indicates if the data team process is being implemented as written. All three schools administered a pre-and post-survey. McNair administered the survey the week of October 16, 2007, and Lawson administered the survey the week of October 1, 2007. Twillman administered the survey the week of November 5, 2007. The Data Team Scoring Guide was administered again by all three schools in April 2008 (Appendix D).

9. Record observation notes and review team meeting agendas and minutes. Observation notes were recorded on the interactions among the team members during the data team meetings. Notes indicated interactions among team members and their commitment to the data team process. Team meeting agendas and minutes were collected and reviewed to note fidelity to the process and its purpose.

10. Plan to analyze data. In order to determine if the structure of data teams affects collaboration, three types of data were collected. Yearly and monthly Tungsten data was collected for two years to find out if the data team process positively affected student achievement. The 2006 - 2007 year Tungsten data reflects the result of a year with no data team process in place. The 2007 - 2008 year Tungsten data reflects the results of the implementation of the data

team process. The Five Dysfunctions of a Team survey was collected when

the data team process began and seven months later to find out if the data

team process affected collaboration. The Data Team Scoring Guide was

collected to conclude if the process of data teams was implemented as

intended. Observation notes, team agendas, and meeting minutes were

collected and analyzed to document personal interactions among team

members and continued commitment to the data team process.

Instrumentation

Three tools were selected to measure student achievement, collaboration, and

structure implementation. Tungsten Benchmarks measure student achievement over time.

The Five Dysfunctions of a Team Survey indicates if the behaviors exist that are needed

for collaboration. The Hazelwood School District Data Team Self-Reflection Scoring

Guide measures the degree in which the data team structure was implemented.

Tungsten Assessment. Tungsten's Benchmarks (Appendix E) are interim

assessments. An interim assessment gives regular, on-going data, not one-time data, on

how students are progressing toward expectations measured by MAP. Tungsten

assessments aid teachers in ensuring that their students are making progress toward end-

of-year standards, for the state of Missouri. By providing regular assessments aligned

with those standards, teachers have meaningful diagnostic data to change instruction.

This assessment focuses on standards-based instruction and provides purposeful

instructional action.

Key benchmark features include (a) 20 questions in reading and 25 questions in

math; (b) questions written to end-of-year Missouri Framework standards and MAP

expectations; (c) flexible, drill down reporting indicating the standard being assessed by

item number; (d) teaching notes that indicate how the concept was tested; and (e)

professional development describing strategies for teachers to use in the classroom to re-

teach the concept. Each month's benchmarks are loaded via the internet onto the school-

based server by the first of the month. Data is in the system as soon as students complete

an assessment and are available for viewing by the classroom teacher and building and

Central Office administrators.

Five Dysfunctions of a Team Survey. The Five Dysfunctions of a Team Survey

was developed by Lencioni (2002), an author, consultant, and the president of a

consulting firm called The Table Group that specializes in team development. To date, he

has written five books that focus on team aspects. Lencioni theorizes that teams must

focus on five behaviors to be successful. Team members must have trust in one another,

the ability to engage in productive conflict, understand and commit to team decisions, be

accountable to one another, and focus on specific goals and results.

The team survey was administered individually with each member and individual

results were tabulated for a team score. Individual surveys ensured that members do not

influence one another's answers. Members were asked to rate how their team functioned

on fifteen questions using the rating scale as usually, sometimes, or rarely. Three

randomly placed statements focus on each behavior. The survey results indicated if each

of the five behaviors was *not a problem, could be a problem,* or *needs to be addressed.*

Data Team Scoring Guide. Hazelwood School District Data Team Self-Reflection

Scoring Guide was developed by Doug Reeves and modified by Dr. Mary Piper,

Assistant Superintendent of Curriculum and Development for the Hazelwood School

District and edited and revised by the district Data and Assessment Committee in 2007.

The scoring was based on the work Doug Reeves and the Norfolk Public Schools in

Norfolk, Virginia (Reeves, 2000). The instrument was designed for team members to

evaluate their degree of implementation in 13 specific areas: member participation,

norms, minutes, scheduling, collect and chart data and results, analyze strengths and

obstacles, goals, instructional strategies, determine results indicators, agendas, data,

follow up and administration. Teams collaboratively reflected on their implementation

measured as advanced, proficient, or emerging. Teams had to agree that all characteristics

listed were present before choosing a specific ranking.

All data collected was inserted into excel spreadsheets to create appropriate

graphs and charts for comparison purposes.

Validity of Instrumentation

The research study collected monthly Tungsten Benchmark assessment data.

Students completed these assessments via computer with results collected electronically

and stored on the district server. The Five Dysfunctions Survey by Patrick Lencioni and

the Data Team Self-Reflection Scoring Guide designed by Dr. Doug Reeves and

modified with his permission by the Hazelwood School District were coded and

completed for anonymity Observation notes and collection of agendas and minutes was

completed by the researcher.

Reliability of Instrumentation

The instrumentation was reliable and administered to the appropriate groups. The

Tungsten data was criterion and norm referenced (Edison Schools, Inc. 2009). Students

using school computers completed assessments monthly. Electronically calculated scores

were automatically stored on the district server. No staff member influenced administered

assessments given to the students. A closed-ended survey from The Five Dysfunctions of

a Team Survey was completed by participating teachers in the study. Surveys were

completed just prior to the use of data teams and one year after implementation. For a

pre/post situation, a paired dependent t-test was given. The researcher made observation

notes and collected agendas and meeting minutes on a weekly basis.

Validity of Study

The administrators in the elementary schools involved in the study used this

information to make decisions regarding structure of grade level teams, member changes,

and team meeting procedures. Grade level teams and building administrators

participating in this study designed procedures for analyzing student work, collected data,

and made recommendations of strategies to drive instruction. Administration and teachers

determined modifications to this process for the next school year.

Method of Study

Tables and graphs helped compare fourth and fifth grader Tungsten scores in

Communication Arts one year prior to use of data teams to one year after

implementation. A two sample independent t-test was administered to test random

samples for two independent populations of differing sizes. To assure reliability of results

the researcher also checked confidence intervals about the mean. A paired t-test was

applied to the teacher pre-test/post-test data collected from The Five Dysfunctions of a

Team Survey to determine if there was a statistically significant difference between the

surveys. The Data Team Scoring Guide was a pre and post collaborative reflection by

each team on their degree of implementation of the data team process during the year of

study. A bar graph compared team reflections at the time of initiation and after one year of implementation. A narrative was composed on researcher observation notes, team meeting agendas, and minutes.

Statistical Treatment of Data

The study compared two groups of fourth and fifth graders one year prior to implementing the data team process and in the initial year of treatment. The populations of students included in the study were from three elementary schools within the Hazelwood School District during the 2006-2007 and 2007-2008 school years. The sample sizes included 198 fourth graders and 214 fifth graders representative of the schools involved in the study. The schools included in the study had administrators interested in determining if effective collaborative teams effective had a positive impact on student achievement. Data pertaining to the student sample was collected from a district server which stores Tungsten data for the entire district. The researcher used the two sample t-test for random samples from two independent populations. Results from the whole population of students from the three schools, as well as from individual school scores, were compared. Qualitative data in a pre/post survey was collected on participating teachers in the study. A dependent t-test was used to determine if there was significant difference in individual perceptions of team member effectiveness when data teams were initially put into operation and one school year after implementation.

Rationale for Selected Statistical Treatment

The study showed a comparison of student achievement data one year before and one year after the data team process was put into place. The researcher believed the collaborative data team process would positively impact student achievement scores.

Data was analyzed as an entire population from all three elementary schools and as

disaggregated data from each school. The researcher also allowed for the comparison of

teacher perceptions of their effectiveness as individual team members and grade level

teams as well. Randomly placed statements on five behaviors for effective teams were

rated before and after the implementation of data teams. The researcher also utilized

results from a team scoring guide completed by individual teams to evaluate the degree of

implementation of the data team process in thirteen specific areas.

Explanation of Data Treatment for Variables

The independent variables included (a) following the steps of the data-team

process with fidelity, and (b) the degree of implementation by members of the grade level

teams of each participating school. Administrators and team leaders encouraged staff

members to participate in the data-team process with the expectation that through

effective collaboration, analysis of student work, and no-fault reflection on educational

practice there would be a positive impact on student achievement. Agendas and minutes

of data team meetings were collected on a weekly basis. Samples of student work,

formative assessments, graphs indicating progress toward selected goal, as well as

observational notes were collected as artifacts.

Summary

The data-team process provided a specific continuous structure to ensure grade-

level teams focused on specific teaching and curriculum and provided structured time to

allow teachers and administrators to effectively collaborate in selecting and implementing

actions that would improve student performance. The administrators of the schools

involved in the study believed that if the structures were implemented with fidelity,

ineffective teams would transform into effective teams with a positive impact on student achievement. Each school involved in the study was trained in the five-step data team process. Administrators developed building schedule to provide consistent common time for grade-level teams to meet. Grade-level teams consisted of a team leader with each member selecting a supporting role in the process. The researcher analyzed student work and data for patterns, trends, and proficiency levels. Data teams set goals, selected strategies, and determined results indicators. The researcher collected Tungsten Benchmark data to determine impact on student achievement. Results from pre- and post-team dysfunction surveys and data team scoring guides were used by the researcher to determine effectiveness of individual team members and the degree of team implementation of the data team process.

Chapter Four will report the results of this study. Chapter Five will discuss results and conclusions and suggest recommendations for future practice and research.

Chapter Four - Results

The concept of collaborative teams has been a part of the educational culture for decades. The function of such teams was for teachers to respond to data which would require a sense of mutual accountability and changing classroom practice. It was for this purpose that the administrators of the schools involved in this study attempted for several years to set up common times for grade-level teachers to collaborate. However, specific organization of the teams was lacking and did not provide the direction needed for success with team collaboration or student achievement. The purpose of this study was to examine whether providing a specific data team structure would develop and encourage collaboration, create effective teams where teachers would take risks and engage in productive dialogue, and have a positive impact on student achievement.

The schools involved in this study had attempted to develop collaborative teams for several years. In June, 2007 the Hazelwood School District introduced the concept of data teams as a district- wide initiative at its annual district-wide Data and Assessment Meeting. The data team format provided a specific structure for collaborative teams. Training was provided to all staff members on the purpose and process of data teams. Schedules were developed to provide consistent collaborative meeting times; team leaders were selected, grade level members assumed specific roles on the team, and information was shared at monthly team leader meetings. With specific structures in place, this study explored if ineffective teams could be transformed into effective teams who were motivated to work together until they were successful.

This chapter will present the results of academic data collected for two independent student samples of fourth and fifth grade students from three elementary

schools in the Hazelwood School District during the 2006-2007 and 2007-2008 school

years. The 2006-2007 school year represented the year prior to the initiative of the data-

team structure and 2007-2008 the year of implementation. A two sample independent t-

test was administered to compare findings. Additional quantitative teacher data was

collected during the 2007-2008 school year in the form of a pre and post survey of team

members' perceptions of their effectiveness as team collaborators. For this comparison on

pre/post data, a dependent t-test was used. The researcher developed bar graphs to

document pre/post survey results of the individual behaviors of team members addressed

in the Five Dysfunctions of a Team survey. The researcher collected data on team

perceptions of effectiveness in the form of a pre and post self-reflective team scoring

guide. The researcher tabulated the data and created a bar graph to display results. The

researcher wrote a narrative reflecting observations made by the researcher during team

meetings and on meeting agendas and minutes.

Results

        The researcher performed a two sample independent t-test on the achievement

data collected which compared the fourth and fifth grade scores from McNair, Lawson,

and Twillman Elementary Schools for the 2006-2007 school year, prior to data teams and

2007-2008 scores, one year after implementation. This test was used to compare two

independent data sets that were drawn from populations that followed a normal

distribution with varying sample sizes (see Tables 7 and 8). For each test completed on

academic performance, the null hypothesis statement and the alternative hypothesis

statement were

H$_0$: Mean (2006-2007) = Mean (2007-2008)

H$_1$: Mean (2006-2007) ≠ Mean (2007-2008)

Table 7

Comparison of Fourth Grade Tungsten Communication Arts Scores

	2006-2007	2007-2008
Sample Size	214	173
Mean	64.3	63.5
Standard Deviation	16.0	17.4
Standard Error of Mean	1.1	1.3
Estimated Mean Difference	0.76	
95% CI for Difference	(-2.61, 4.14)	
t-Stat	0.45	
DF	353	
P Probability Value	0.328	

Analysis of the fourth grade data does not show any statistically significant results. The t- value for the combined scores of all three schools was 0.45 which is less than the t* critical value of 1.984. The p-value 0.656 indicates this result could occur about 66% of the time. Statistically, the mean score for 2006-2007 is about the same as the mean score for 2007-2008. However, since the scores for 2007-2008 were not greater than the scores for 2006-2007, the null hypothesis that data teams would have minimal effect is accepted.

Table 8

Comparison of Fifth Grade Tungsten Communication Arts Scores

	2006-2007	2007-2008
Sample Size	198	219
Mean	70.2	66.7
Standard Deviation	18.3	17.3
Standard Error of Mean	1.3	1.2
Estimated Mean Difference	3.56	
95% CI for Difference	(0.12, 7.00)	
t- Stat	2.03	
DF	404	
p Probability Value	0.022	

Analysis of the data for fifth graders shows that the scores for 2006-2007 are significantly higher than the 2007-2008 scores. This is evidenced by the positive t-score of 2.03 and also by the confidence interval used which estimates the mean difference between the two populations. The confidence interval shows that out of 95% of all samples that could be taken, the 2006-2007 scores would have a mean score higher than the 2007-2008 scores. In addition, the p-value of 0.022 is less than the significance level, α of .05, which indicates that the null hypothesis is rejected. Therefore, a significant change in student achievement is measured when comparing 2006-2007 scores to 2007-2008 scores. However, the average 2007-2008 scores were lower, so it can be concluded that data teams had minimal effect on student achievement.

Analysis was also performed on the disaggregated fourth grade data from the three participating schools (see Tables 9, 10, and 11).

Table 9

Comparison of McNair Fourth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	73	73
Mean	61.6	64.6
Standard Deviation	16.5	18.7
Standard Error of Mean	1.9	2.2
Estimated Mean Difference	-2.95	
95% CI for Difference	(-8.72, 2.83)	
t- Stat	-1.01	
DF	141	
p Probability Value	0.158	

Table 10

Comparison of Lawson Fourth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	63	51
Mean	64.7	66.2
Standard Deviation	17.8	16.3
Standard Error of Mean	2.2	2.3
95% CI for Difference	(-7.88, 4.80)	
Estimated Mean Difference	-1.54	
t-Stat	-0.48	
DF	110	
p Probability Value	0.316	

Table 11

Comparison of Twillman Fourth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	78	49
Mean	66.4	59.1
Standard Deviation	13.5	16.1
Standard Error of Mean	1.5	2.3
95% CI for Difference	(1.83, 12.79)	
Estimated Mean Difference	7.31	
t- Stat	2.65	
DF	89	
p Probability Value	0.005	

The researcher also analyzed the disaggregated data from the three participating schools. The disaggregated data shows some conflicting results. McNair and Lawson Elementary Schools have higher mean scores for the 2007-2008 school year when data teams were implemented. This is evidenced by the negative t-score and the estimated mean difference in each of the confidence intervals. The calculated p-value at both schools, however, is greater than the significance level, α of .05, which indicates the null hypothesis is not rejected. No significant change in student achievement was measured when comparing 2006-2007 scores to 2007-2008 scores. Therefore, collaborative teaming had no impact on student achievement. Twillman Elementary scores are completely different from the other two schools. It has a positive t-score of 2.65 and a p-value of 0.005 which indicates the null hypothesis is rejected.

Analysis was also performed on the disaggregated fifth grade data from the three participating schools (see Tables, 12, 13, and 14).

Table 12

Comparison of McNair Fifth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	62	84
Mean	66.5	66.5
Standard Deviation	18.0	17.9
Standard Error of Mean	2.3	2.0
Estimated Mean Difference	-0.01	
95% CI for Difference	(-5.96, 5.94)	
t- Stat	0.00	
DF	131	
p Probability Value	0.499	

Table 13

Comparison of Lawson Fifth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	73	63
Mean	76.1	67.4
Standard Deviation	12.0	18.7
Standard Error of Mean	1.4	2.4
95% CI for Difference	(3.27, 14.12)	
Estimated Mean Difference	8.69	
t-Stat	3.18	
DF	102	
p Probability Value	0.001	

Table 14

Comparison of Twillman Fifth Grade Tungsten Scores

	2006-2007	2007-2008
Sample Size	62	71
Mean	68.0	66.0
Standard Deviation	21.3	15.3
Standard Error of Mean	2.7	1.8
95% CI for Difference	(-4.44, 8.48)	
Estimated Mean Difference	2.02	
t- Stat	0.62	
DF	109	
p Probability Value	0.269	

The disaggregated fifth grade data from the three schools show some interesting results. Both McNair and Twillman Elementary did not show any significant results when, the year without data teams was compared to the year when data teams were implemented. There is no mean difference at all between the two years at McNair. There was a slightly higher mean score, 2.02, at Twillman Elementary but still not a significant result. Lawson Elementary scores were very different from the other schools and are the reason why the collective analysis indicated the scores for 2006-2007 were higher than the scores for 2007-2008. The large t-score of 3.18 and the small p-value of 0.001 are conclusive evidence that the scores for Lawson were significantly higher before teams were implemented. Because of this drastic difference, Lawson scores were able to pull

the aggregate results in that direction. The disaggregate data indicates the null hypothesis

is accepted.

The data from the Five Dysfunctions of a Team Survey were analyzed as a

combined set of data and also as independent sets of fourth and fifth grade teachers (see

Tables 15, 16, and 17). Since this is a pre-test/post-test survey, a dependent t-test was

used. The purpose of the test was to determine if the teacher perception of effectiveness

was significantly higher between the pre-and post-test. For each test completed on team

survey the null hypothesis and the alternative hypothesis were:

H_0: *Mean (September 2007) = Mean (April 2008)*

H_1: *Mean (September 2007) ≠ Mean (April 2008)*

The test indicates there was not a significant difference between the scores. The t-score,

0.46, is far less than the t* critical value of 2.110. The p-value, 0.648 is larger than the

significance level, σ, of 0.05, and the mean difference is just slightly less than 0,   -

0.444. The test results therefore, indicate no difference in teachers' perceptions of their

effectiveness as team members when analyzed collectively pre-test to post-test.

Table 15

Comparison of Teachers' Five Dysfunctions of a Team Survey

	Pre-Test	Post-Test	Difference
Sample Size	18	18	0
Mean	34.44	34.89	-0.444
Standard Deviation	4.83	4.51	4.062
Standard Error of Mean	1.14	1.06	0.957
95% CI for Difference	(-2464, 1.575)		
t- Value	0.46		
p-Probability Value	0.648		

Table 16

Pre/Post Fourth Grade Teachers' Five Dysfunctions of a Team Survey

	Pre-Test	Post-Test	Difference
Sample Size	9	9	0
Mean	33.89	32.56	1.33
Standard Deviation	5.09	3.78	3.50
Standard Error of Mean	1.70	1.26	1.17
95% CI for Difference	(-1.36, 4.02)		
t- Value	1.14		
p-Probability Value	0.286		

When isolating the fourth grade teachers' scores, there was not a significant difference between pre- and post-test mean scores. The p-value was still larger than the significance level, σ, 0.05 for the tests; although, the evidence indicated that the fourth grade teachers had slightly higher perceptions about their effectiveness as team members post-test than when all of the teachers were compared. This is indicated by the positive mean difference of 1.33, which indicates the fourth grade teachers had a higher perception overall of their effectiveness post-test.

Table 17

Pre/Post Fifth Grade Teachers' Five Dysfunctions of a Team Survey

	Pre-Test	Post-Test	Difference
Sample Size	9	9	0
Mean	35.00	37.22	-2.22
Standard Deviation	4.80	4.09	3.96
Standard Error of Mean	1.60	1.36	1.32
95% CI for Difference	(-5.27, 0.82)		
t- Value	-1.68		
p-Probability Value	0.131		

As with the fourth-grade results, there was not a statistically significant result when isolating the fifth-grade scores. The p-value is much larger than the significance level of 0.05. The negative mean difference of -2.22 indicated the teachers' perception of their effectiveness was much lower pre-survey versus post-survey, but not significantly.

Bar graphs were generated to illustrate pre-survey and post-survey results depicting the five specific behaviors addressed in Lencioni's Five Dysfunctions of a Team Survey. Teachers rated themselves in the areas of trust in one another, productive conflict, commitment to team decisions, accountability to one another, and attention to results. Using a rating scale of *usually, sometimes*, or *rarely*, members rated themselves and then results were compiled to formulate a team score.

Figures 1, 2 and 3 illustrate the ratings from the survey among the fourth grade teachers in the study.
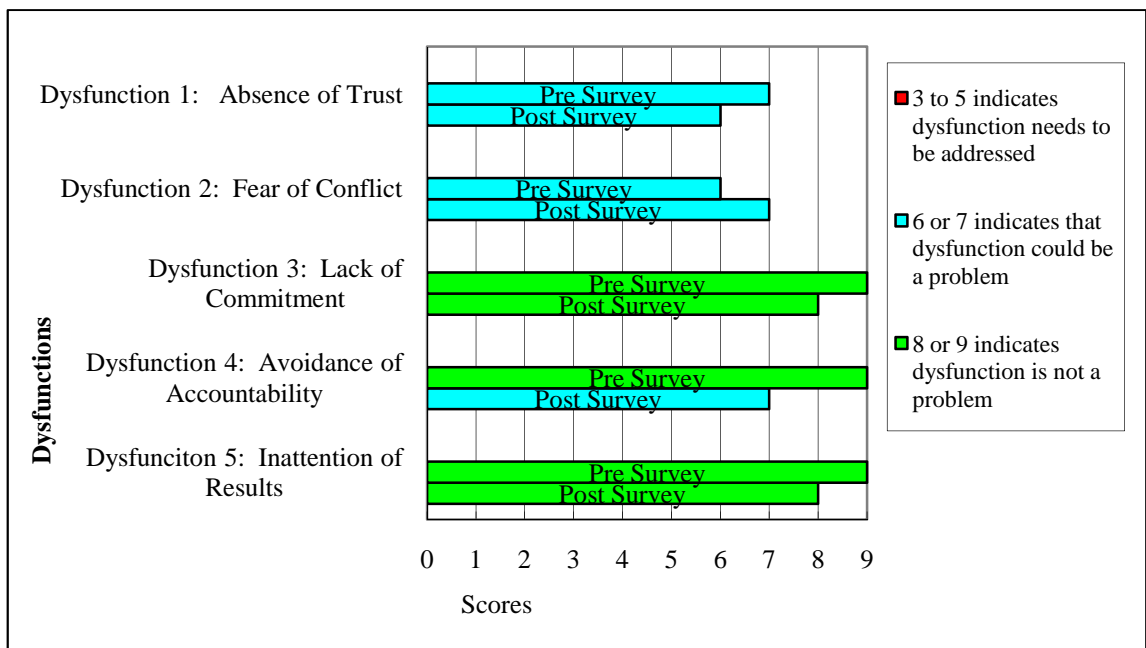
Figure 1. McNair fourth grade Five Dysfunctions of a Team Survey.
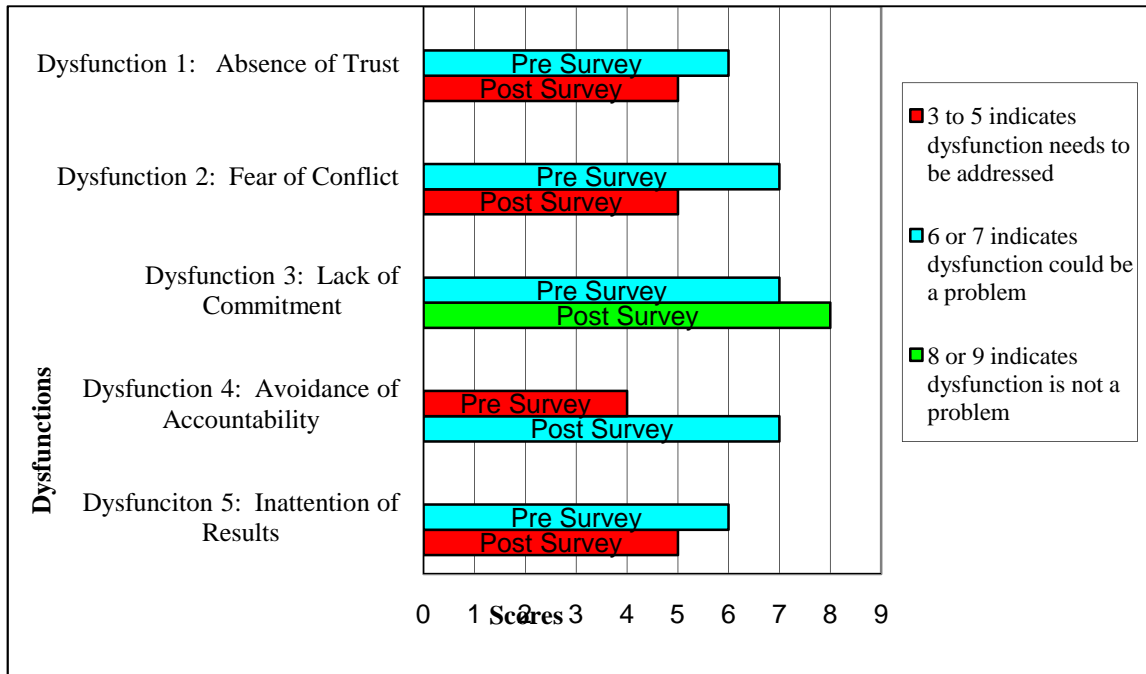
Figure 2. Lawson fourth grade Five Dysfunctions of a Team Survey.
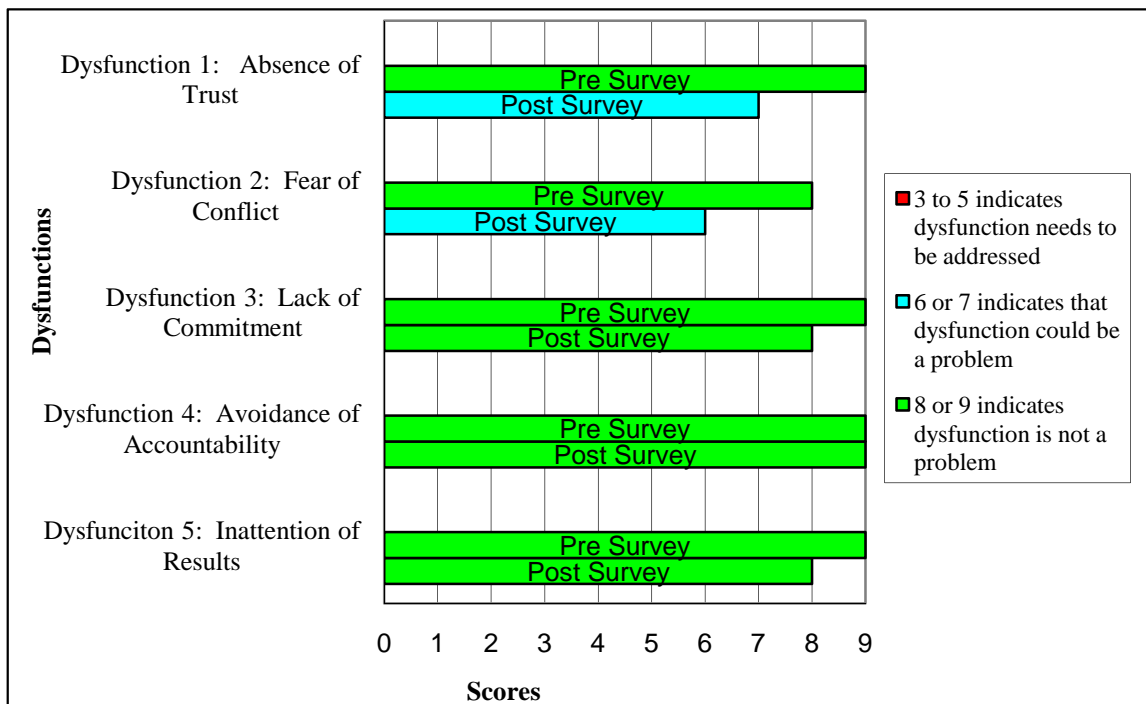
Figure 3. Twillman fourth grade Five Dysfunctions of a Team Survey.

When comparing survey results, trust among fourth-grade team members decreased at all sites. Post-survey scores indicated trust could be a problem to address at McNair and Twillman and was identified as a problem area at Lawson Elementary. Fear of conflict improved at McNair but had the opposite result at both Lawson and Twillman. Lawson teachers identified this as a problem area. Commitment to team decisions decreased at both McNair and Twillman but improved at Lawson. None of the schools identified commitment as an area of concern. Results on accountability to members of the team varied at all three schools, but none identified this as an area that needed to be addressed. Focus on results also had varied results with McNair identifying it as an area that could be a problem and Lawson an area that needed to be addressed. Comparing the results collectively at all three schools, scores declined in eleven of the fifteen assessed areas in the post survey.

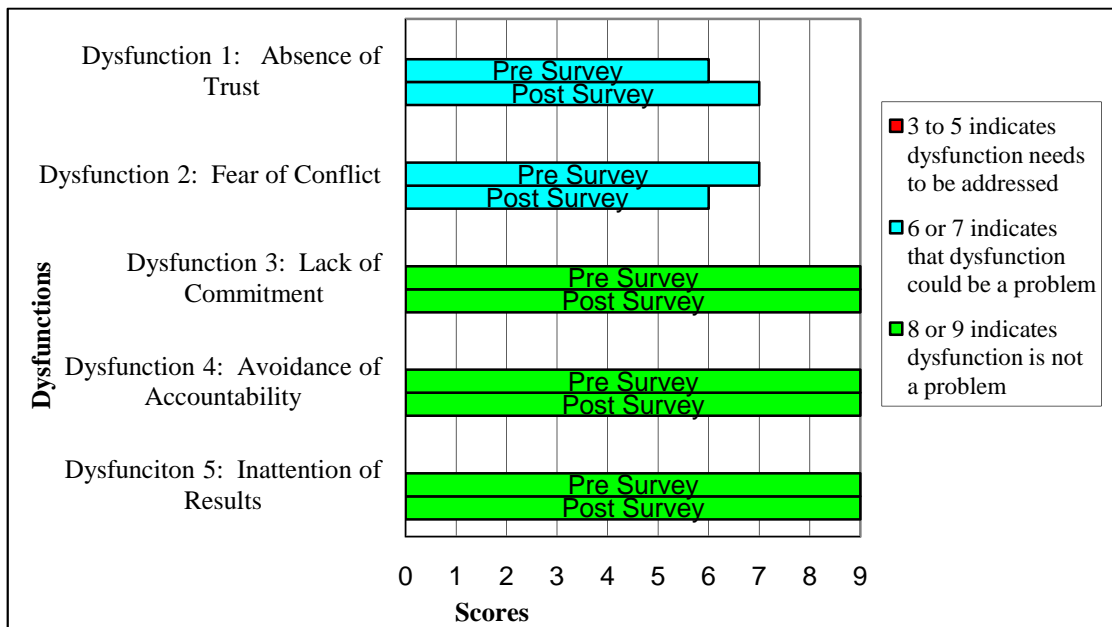Figures 4, 5, and 6 illustrate the ratings from the survey among fifth grade teachers in the study.

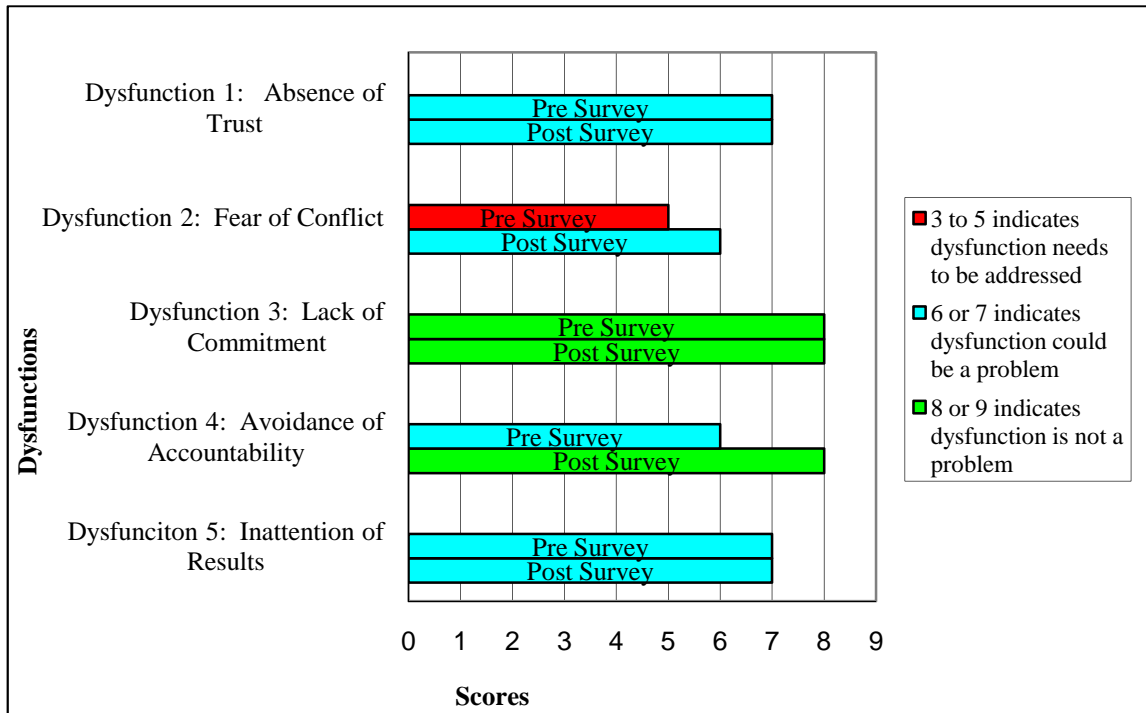*Figure 4.* McNair fifth grade Five Dysfunctions of a Team Survey.

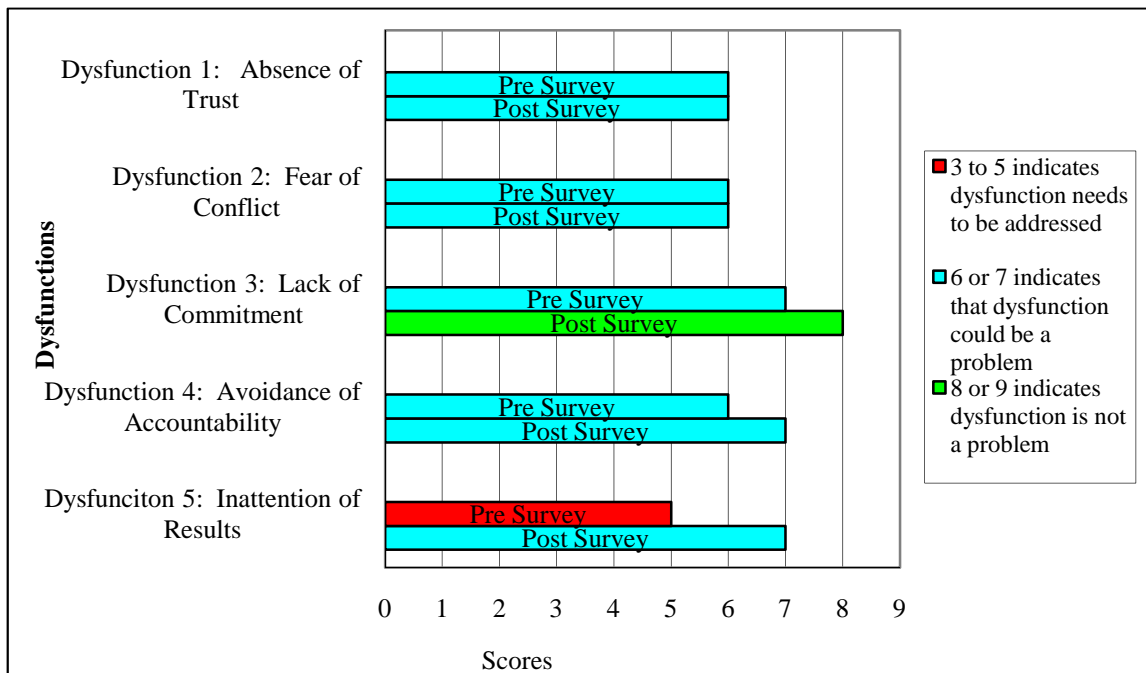*Figure 5.* Lawson fifth grade Five Dysfunctions of a Team Survey.

Figure 6. Twillman fifth grade Five Dysfunctions of a Team survey.

Fifth-grade results indicated a more positive trend among the teams. Only Lawson and Twillman indicated a behavior as a possible concern in the pre-test survey, and none of the schools had areas to address in their post-test surveys. In analyzing the results from all three sites, six areas showed improvement in scores, while eight areas remained the same, and only one category, fear of conflict, decreased at McNair. Post-survey results suggest the fifth-grade teams did not view the five behaviors as an impediment to their effectiveness.

Grade-level teams at each of the participating schools also completed a pre-/post-assessment of their performance as a team using the Hazelwood School District Data Team Self-Reflection Scoring Guide (see Figures 7, 8, and 9). This scoring guide was based on the work of the Norfolk Public Schools in Norfolk, Virginia, in collaboration with Dr. Doug Reeves (2000) and was edited with his permission by Dr. Mary Piper, Associate Superintendent of the Hazelwood School District. The instrument allowed team members to evaluate their degree of team implementation in thirteen specific areas. Areas evaluated included member participation, norms, minutes, scheduling, collecting and charting data and results, analyzing strengths and weaknesses in student work, obstacles, goals, instructional strategies, results indicators, agendas, data, follow-up, and administration. Teams collaboratively reflected on their degree of implementation measured as advanced, proficient, or emerging. Point values were five for advanced, three for proficient, and one for emerging. Teams had to agree that all characteristics were present before selecting a ranking.
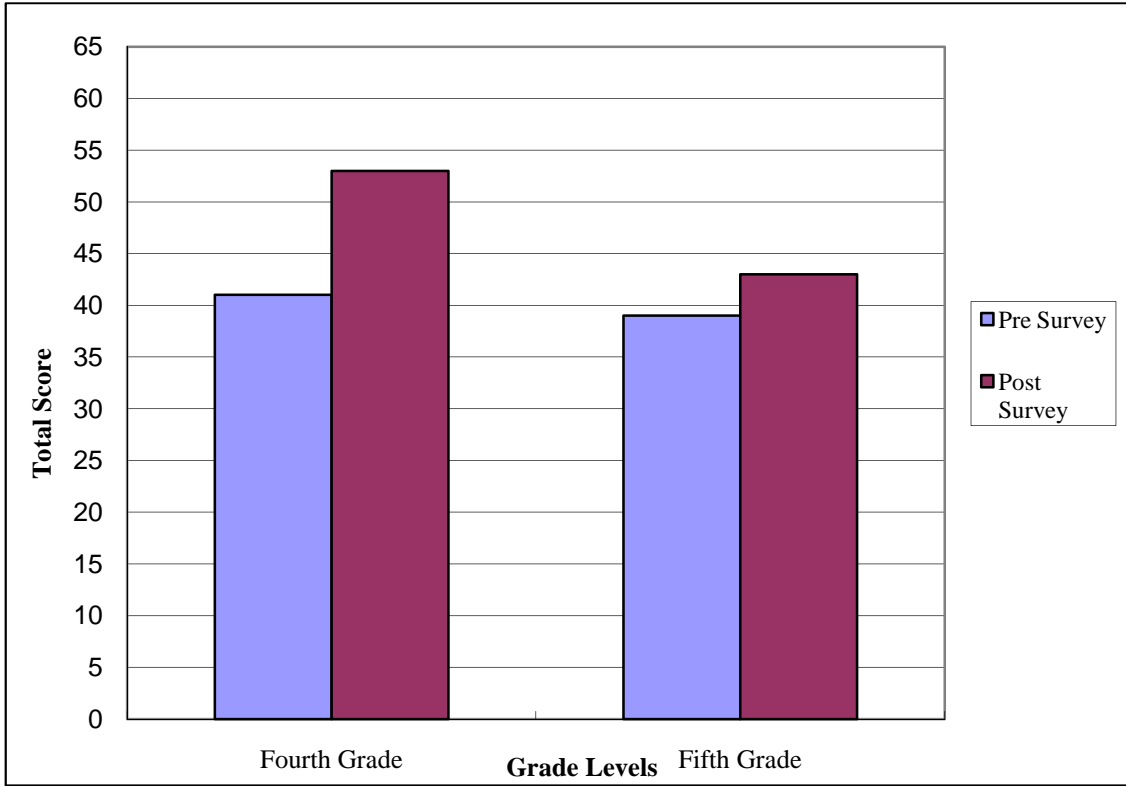
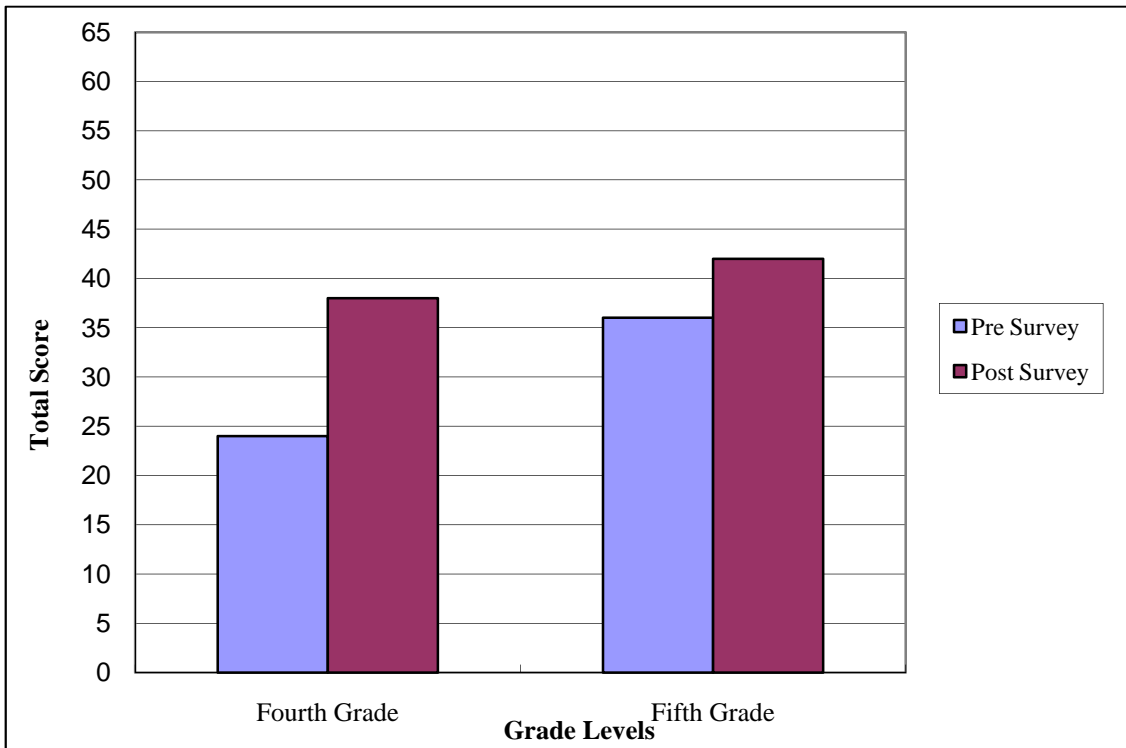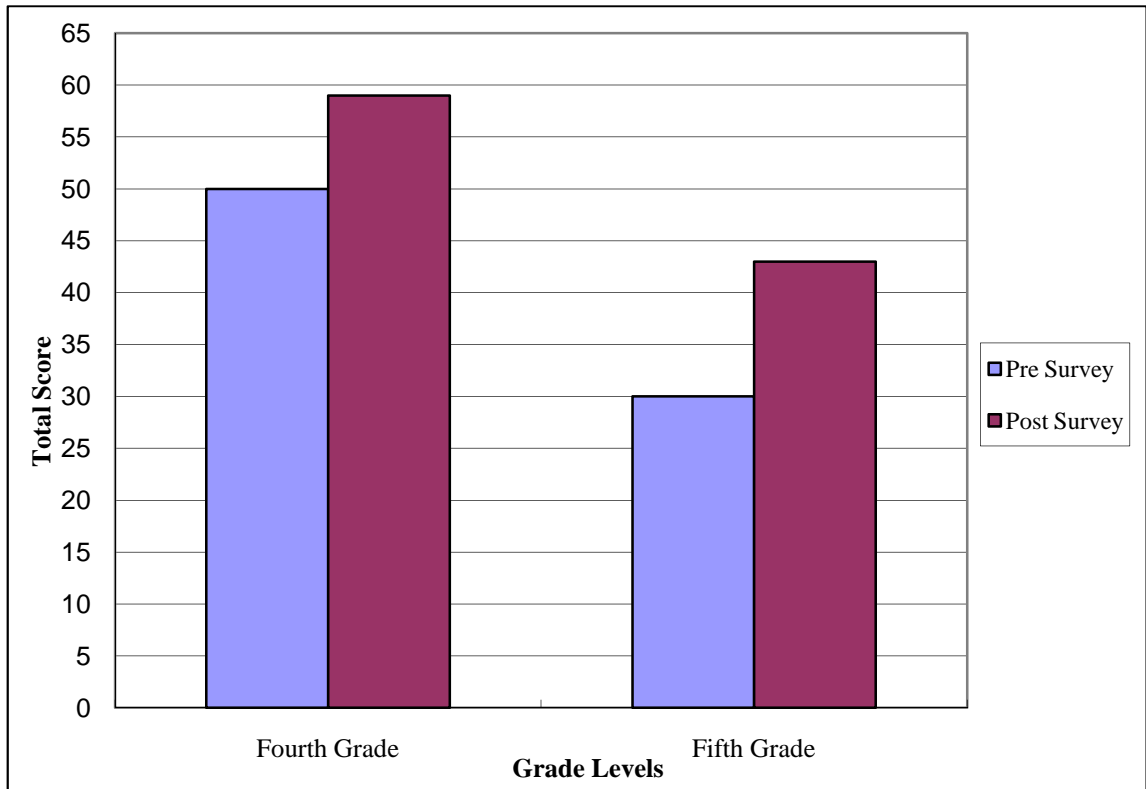*Figure 7.* McNair Data Team Self-Reflection Scoring Guide.

Figure 8. Lawson Data Team Self-Reflection Scoring Guide.

Figure 9. Twillman Data Team Self-Reflection Scoring Guide.

Results from the Hazelwood School District Data Team Self-Reflection Scoring

Guide indicate increases in post-assessments among all teams in their perception of

effectiveness as teams. Fourth grade teachers overall had higher scores when the pre-

assessment was taken at the beginning of the 2007-2008 school year and had the largest

increases in post assessment scores. Fifth-grade teams made a more conservative

assessment of their effectiveness, but increases were made among all teams.

Throughout the study, the researcher recorded observation notes on the

collaborative process among grade level team members. The researcher also collected

team meeting agendas and meeting minutes to determine fidelity to the data team process

and continued focus on the team purpose. Observations indicated that during the course

of the year, study teams varied from authentic implementation of the data team process to

little more than mimicking the steps of the process. One team used results from common assessments as a challenge to attain higher percentages of proficiency for their students. They consistently raised their SMART goal targets, brainstormed additional instructional strategies, reallocated resources, and sought parental support to ensure grade level success. Agendas and minutes consistently noted the steps of the data-team process and each member's function and responsibility. Throughout the year, members of this team sought other opportunities to collaborate as a team and seek each others' advice and support.

 Another team initially had difficulty selecting effective strategies to address their selected goal. Upon continued collaboration, based on results from a common assessment, a more narrowed and effective approach was taken. Some members of this team were frustrated when their students did not reach their target percentage. Collaboration was a little more strained with this team, but eventually they viewed results as a need to change instructional practice rather than the result of ineffective teaching. Sometimes teams prepared agendas that noted the process but observations and minutes noted they veered from the intended purpose.

Analysis of Data

 For several years the administrators of the participating schools in this study attempted to implement effective collaborative teams within their schools. Beginning with the 2007-2008 school year, the Hazelwood School District began implementing the data-team initiative throughout the district. The concept of data teams is one of continuous improvement with no-fault reflection on educational practice. The five-step process includes collecting and charting data, analyzing work for trends and patterns,

goal setting, selection of effective instructional strategies, and selection of result

indicators. Teachers involved in this study were provided professional development in

Data Driven Decision Making and Data Team Training prior to implementing the specific

data-team structure.

Tungsten Benchmark Assessment scores from fourth and fifth grade students

from three elementary schools within the district were used to analyze student

achievement. 2006-2007 scores, before data teams were implemented, were used as a

baseline for comparison of 2007-2008 scores, one year after implementation. The

Tungsten data collected and analyzed showed no significant increase in student

achievement one year after the implementation of data teams. Collective fourth grade

scores indicated a slightly higher mean average in 2006-2007, the year prior to data

teams. When analyzing the disaggregated school data, McNair and Lawson actually had

higher mean scores for 2007-2008. While the difference in the scores was not enough to

reject the null hypothesis, Twillman's scores were so completely opposite, they skewed

the results for the collective group. The fifth grade aggregate results also revealed no

significant increase in achievement scores after data team implementation. McNair and

Twillman showed little or no difference, while Lawson scores were significantly higher

for 2006-2007. The large difference in Lawson scores compared to the other two schools

was able to distort the aggregate results.

Results from The Five Dysfunctions of a Team Survey denote a slight increase in

the post-survey mean scores but not enough to indicate a significant difference in teacher

perceptions of individual effectiveness as team members. Fourth grade teachers had a

slightly higher perception of their effectiveness as team members when compared to the

collective group. Fifth grade teachers, on the other hand, had the opposite result.

Data regarding the degree at which the components of the data team structure were

executed indicated grade level teams at all three schools showed improvement in

implementation. Fourth grade teachers' perceptions of effective implementation were

higher than those of the fifth grade teachers.

Results from observations by the researcher and review of meeting agendas and

minutes indicate that while implementation of the data team process was somewhat

awkward and challenging for some team members, after awhile, the majority of teachers

became more comfortable and effective with the process. Discussions focused around

selected goals, strategies, and assessment results. However, there were still some team

members who needed consistent monitoring to participate in the process.

Deductive Conclusions

The null hypothesis stated that if scores on The Five Dysfunctions of a Team

Survey and The Hazelwood School District Data Team Self-Reflection Scoring Guide

were high and student Tungsten Benchmark scores were low, then effective teams had

minimal effect on student achievement. Due to results of the two sample independent t-

test, data teams had no significant effect on student achievement. Therefore, the

researcher accepts the null hypothesis.

Summary

Research supports the need for a collaborative culture in schools. A collaborative

culture allows teachers and administrators to interact collegially and professionally to

seek needed change to bring about improved student achievement. In effective

collaborative teams, members display trust in one another, engage in productive conflict,

commit to team decisions, are accountable to one another, and focus on results. When

these behaviors are consistently displayed and specific team structure adhered to, an

improvement in student achievement should occur. The results of this study did not

support the effect of effective teams on increased student achievement.

Chapter Five will discuss results and conclusions and suggest recommendations

for future practice and research.

Chapter Five - Discussion, Conclusions, and Recommendations

The Hazelwood School District is not unlike many other large districts seeking to find ways to increase student achievement and proficiency of all students, even when confronted with challenges such as economically-disadvantaged groups, lack of resources, and special needs and at-risk populations. To address needed philosophical changes and provide assistance and support for teachers and the community in the shift toward standards-based instruction, data-driven decision making, and assessment, the district elicited the assistance of Dr. Douglas Reeves from the Center of Performance Assessment. Beginning with the 2002-2003 school year, Dr. Reeves' associates from the Center of Performance Assessment, and key Central Office staff began to address the arduous task of educating, developing, and creating a shift in the existing paradigm of the certified staff. Annual District Data and Assessment Meetings focused on initiatives for the upcoming year including leadership and making standards work, unwrapping standards, power standards, collaboration, data-driven decision making, and the data-team process.

Effective grade-level collaboration was a concept that principals involved in this study had tried to implement for several years. Grade-level teachers met weekly to discuss student performance on varied assessments, plan lessons, and discuss performance concerns. Seemingly the weekly meetings had grade-level teachers talking and planning together, but decisions were not based on analyzing student work, focusing on results from data, or goal setting. The data-team process introduced in the 2007-2008 school year provided a well defined five-step structure which focused on collecting data from common assessments, analyzing student work, goal setting, selecting effective

instructional strategies, and identifying result indicators of success. Once the teachers

received data-team training, the process was used consistently among all grade-level

teams involved in this study.

Comparing Results to the Literature

Based on the research, collaboration is vital to meet the individual needs of all

students and adults. According to Lencioni (2002), in order for a team to effectively

collaborate, all members must be (a) willing to trust one another, (b) able to engage in

productive conflict, (c) dedicated to team goals, (d) accountable to each other, and (e)

results oriented. In addition, Larson and LaFasto (1989) stated effective teams have clear

roles, accountability systems in place, effective communication and monitoring, and

provide feedback to individuals.

The Data Team Process focused on specific teaching strategies and leadership

practices that impact student achievement. The Data Team Structure allowed teachers to

examine data, look for trends, set goals, and implement strategies with their grade-level

team in a non-threatening environment. This process allowed educators the opportunity

as adult learners, who shared a common understanding of student needs, to engage in

relevant discussions and arrive at solutions to improve instruction and student

achievement.

The alternate hypothesis of this study stated that if the data-team structure was

implemented, then effective teams would be created as measured by improved scores on

the Tungsten Benchmarks Assessments, The Five Dysfunctions of a Team Survey, and

The Hazelwood School District Data Team Self-Reflection Scoring Guide. In order to

know if the Data Team Process impacted student achievement, a comparison was made

of the results from Tungsten Benchmark Assessments for fourth- and fifth-grade students

for the 2006-2007 school year before data teams and the 2007-2008 school year after

implementation. Results of the aggregate data for both grade levels did not show any

statistically significant results in favor of data teams. Perhaps if a comparison had been

made of the same group of students, fourth grade students from the 2006-2007school year

to fifth graders in the 2007-2008 school year, results may have varied. Disaggregated

data showed slightly improved fourth grade scores at McNair and Lawson Elementary

Schools, but opposite results at Twillman Elementary. Fifth grade mean scores at McNair

Elementary remained the same with slight increases at Twillman Elementary. Higher

mean scores at Lawson Elementary pulled aggregate scores to a higher mean for 2006-

2007. As the research indicated time was addressed as an essential component for the

implementation of collaborative teams. Additional longitudinal data is necessary to

determine a more definite imapct of collaborative teams on student achievement.

All grade level teams implementing the Data Team Process believed that

collaboration would increase based on the Five Dysfunctions of a Team Survey. Each

grade-level team member evaluated themselves based on five characteristics of an

effective team. Results of the dependent t-test indicated no significant difference in

teachers' perception of effectiveness as team members when analyzed pre-test to post-

test. When looking at the five specific behavior areas of the survey, fourth grade teachers

rated themselves lower on 11 of the 15 behaviors among all three schools. Fifth grade

teachers, however, rated themselves higher in six areas, remained the same in eight, and

declined in only one area. Based on principal observations, it is believed that teachers

may not have had an understanding of the terms and behaviors of the Five Dysfunctions

Survey. Pre-survey results were based on social rather than professional relationships that

resulted in inflated perceptions of how their teams collaborated. The researcher believed

that teachers had a better understanding of the terms and expectations during the

implementation of the post-survey. After the year-long implementation, teacher

perceptions about the Data Team Process shifted over time from social to professional-

from an opportunity to socialize to an opportunity to solve real problems based on real

data. The Data Team minutes and principal observations revealed that teacher decisions

and topics of discussion evolved from opinions to data driven. Observations included (a)

teachers were more focused on learning outcomes, (b) teachers were more competent at

evaluating the effectiveness of implemented strategies, and (c) teachers were more self-

reflective and realistic about expectations. Based on these observations, the Data Team

Process did have a positive effect on collaboration.

In order to determine if the Data Team Process impacted collaboration and

student achievement, an assessment of the level of implementation of the process was

conducted by each grade-level team. Based on the results of the Hazelwood School

District Data Team Self-Reflection Scoring Guide, every grade level increased in overall

implementation of the Data Team Process. Fourth grade teams rated themselves highest

both pre- and post-assessment; however, all grade levels demonstrated increases. Based

on test results, though, the Data Team Process had no significant effect.

Implications for Schools

Shifts in the focus of education, accountability mandates, and proficiency

standards for all are presenting enormous challenges for educators today. These

challenges require teachers, administrators, and professional developers to "think outside

the box." Educators should shift from teaching isolated content to helping students develop the necessary skills to problem solve situations beyond the content. Utilizing effective instructional strategies (Marzano, et al., 2001) and providing opportunities for students to be involved in authentic engagement (Schlechty, 2000) could assist with this shift in instructional practice.

A restructuring of schools may allow educators to decide what is essential for students to learn. According to Bella (2004), by creating an effective, collaborative culture in schools, teachers can experience a greater depth of learning by having continuous artifacts of analysis, progress, strategies, and patterns of success on which to improve pedagogical skills. In a collaborative culture, teachers continuously assess their effectiveness designed to fit into their everyday routine. This continuous reflective practice and adjustment of strategies and instruction should have a positive impact on student achievement.

Educators within the Hazelwood School District believed in the idea of a collaborative culture but did not have the structures in place to implement the process on a consistent basis with a common framework. By providing professional development in Data-Driven Decision Making and the Data Team Process for all certified staff, the district provided the foundation to build effective collaborative teams. However, success is not often realized immediately. Reeves (2008) noted (a) developing trust among colleagues, (b) holding them accountable, (c) framing professional conversations, and (d) adhering to consistent expectations takes time. As teachers and administrators begin to feel more comfortable with the process and structures are consistently implemented and monitored, it seems more likely that student achievement and collegiality will occur.

Recommendations

Schools that want to meet the challenges of educating today's students, who need to know not only content but process and be prepared to tackle future problems, should draw upon the collective talents of all stakeholders within the school community. To continue with and improve upon this research the following recommendations should be considered:

1. The length of time for the study should increase from one to three or more years. This would provide adequate time to recover from the implementation dip. The implementation dip or adoption curve, according to Fullan (2001), is a naturally occurring or inevitable part of the adoption of any new program. During an implementation dip, data will decline before showing growth. Providing teachers with information on the change process will help keep the implementation dip as short and shallow as possible.

2. Analyzing data over multiple years would also allow for student-to-student comparison to realize the impact on achievement for student whose teachers consistently use the data team process.

3. Schedules were developed to allow teachers to collaborate during the school day. Sometimes extenuating circumstances prevented the quality time teachers needed without other distracters. Perhaps the district could provide time for data-decision meetings within the contractual school day for collaboration. At the elementary level, this would allow the inclusion of special area teachers and also provide opportunities for vertical-team collaboration.

4. When implementing new initiatives, the organization suffers a gap to some degree between what is real and what is not real. Instead of using feedback from annual summative assessments, short-term wins from SMART goals should be identified and celebrated. Short-term formative assessments can provide more immediate feedback which can recognize effective practice and allow for change in effective practice. Through recognition of effective practice evidenced by attained short-term goals and improved student achievement, the staff will be motivated to continue data-team structures because of professional desire not compliance to school or district mandates.

5. When grade levels are limited to only a small number of members, ideas may become limited over time. Additional resources for effective strategies and opportunities for modeling and observation should also be part of the process. Thus, the process of vertical teaming would be an effective new structure.

6. Educators need to respond to the changing demographic populations of their school communities. Opportunities should be provided to help teachers acquire culturally responsive pedagogical strategies and implement them when possible and appropriate with the specific culture of the children they teach.

7. In addition to Tungsten scores, discipline referrals and student attendance could be collected to determine if collaborative teams had a positive impact on these areas.

8. Principals must continue as strong instructional leaders of faculty, and grow professionally with their staff. Opportunities need to be created that enable

teachers and administrators to participate in varying teams and learning

communities inside and outside of school. Restructuring the school day would

provide opportunities for collaboration, discussion, and shared research with

school data teams and other district teams.

9. During the 2009-2010 school year, Assistant Superintendents will monitor one

grade level data team meeting every other month. This will give them a more

in depth view of how data teams are functioning in buildings they supervise

and provide the opportunity for input and clarification of data team practice.

Conclusions

Collaborative teaming can be an effective strategy for schools to assist educators

as they shift from comfortable teaching practices to strategies that are outside the

educator's toolbox. The Data Team structure provides the venue for a collaborative

culture which encourages teachers to concentrate on what is best for their collective

students giving teachers support to rethink, reflect, and refine their teaching practice.

Teachers can no longer work in isolation determining their own objectives, teaching

practices and independent assessments. No longer can teachers just be the providers of

information, but rather they must be the stimulus motivating students to understand

process and apply concepts to new situations beyond the classroom.

Education has moved from individual school and local accountability to state and

even federal accountability through standards that prescribe what children should know

and be able to demonstrate with proficiency. Teachers exert significant impact on the

performance of their students but also have tremendous influence on their colleagues.

Educators benefit from working with people (a) they trust, (b) who are committed to the

process, (c) who are reflective of their practice, (d) who use research based strategies, and (e) who set goals based on data. The results of this study did not conclusively support the positive impact of the data team structure. However, based on (a) observations, (b) data team agendas, (c) review of data team minutes, (c) implementation of suggested recommendations, (d) continued student data collection, and (e) using the data team structure, student achievement will improve over time.

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Appendix A: Data Team 5-Step Process

Data Team Meeting

Step 1: Collect and Chart Data and Results

Grade Level Content Area Teacher Names	# Students Who Took Assessment	# Students Proficient or Higher	# Students Non-Proficient	% Students Proficient or Higher
Totals:				

Enter Data Points:

Percentage of Group Proficient or Higher   _____

Percentage of Group Not Proficient or Higher   _____

Actual Number of Students Proficient or Higher   _____

Actual Number of Students Not Proficient or Higher   _____

Data Team Meeting
Step 2: Analyze Strengths and Obstacles

Examine student papers in order to identify strengths and obstacles.

Strengths of Proficient or Higher Student Performance	Obstacles of Non-Proficient Student Performance

Consider:

- ✓ **Issues related to ethnicity, gender, or language acquisition**
- ✓ **Trends, patterns**
- ✓ **Exceptional performance**
- ✓ **Individual students/student groups**

Data Team Meeting Steps and Structure
Step 3: Goals

Example:
Goal statement – The percentage of grade 6 students proficient or higher in math problem-solving will increase from 52% to 65% as measured by a math performance assessment focusing on short-constructed response, administered on February 15 or 16.

Goal percent   <u>82%</u>

Current results   <u>60%</u>

_____ <u>Met</u> goal or <u>Set</u> goal   Percentage Points Above Goal _____

_____ Did not meet goal   Percentage Points Below Goal _____

At this point, the goal has been set.
✓ What are the ramifications if the goal is changed to reflect a higher or lower outcome?
✓ Is the goal still relevant and necessary?
✓ Is this a skill that is still considered very important?
✓ Are there other urgent needs to focus on?
✓ Is it possible to re-set the goal higher and if so, is it achievable?
✓ Is the time frame too short, just right, or too long?
✓ Which students are consistently non-proficient?

Data Team Meeting
Step 4: Select Instructional Strategies

Possible Instructional Strategies

Brainstorm and discuss possible strategies:
✓ Analyze each effective teaching strategy/technique in terms of impact on student learning
✓ Consider what other teachers are implementing to cause a high degree of success - replication
✓ Discount strategies that deviate from what teachers do (accountability)

Agreement:
✓ Have team collaborate on the one or two strategies that they all agree to implement during the next teaching period.
✓ Mark with an X and give team copies of the strategies discussed and agreed upon.
✓ Model ALL strategies that the team has determined. So that the modeling does not always fall on the data team leader, ask other team members to demonstrate a particular strategy. What will the teacher <u>do</u> as he/she uses this strategy?

Data Team Meeting
Step 5: Determine Results Indicators

Results indicators answer the question, "When this strategy is implemented then we expect to see the following evidence . . ."

Selected Strategy Determined in Step 4:

_____

_____

Results Indicators: (What your team expects to see as a result)

_____

_____

_____

_____

_____

Selected Strategy Determined in Step 4:

_____

_____

Results Indicators: (What your team expects to see as a result)

_____

Appendix B: The Five Dysfunctions of a Team Survey

<u>COLLABORATIVE TEAM SURVEY</u>

Instructions: Use the scale below to indicate how each statement applies to your grade level team. It is important to evaluate the statements honestly and without over-thinking your answers. Return Brenda Rone ASAP. Thanks

3 = Usually   2 = Sometimes   1 = Rarely

_____   1. Team members are passionate and unguarded in their discussion of issues.

_____   2. Team members call out one another's deficiencies or unproductive behaviors.

_____   3. Team members know what their peers are working on and how they contribute to the collective good of the team.

_____   4. Team members quickly and genuinely apologize to one another when they say or do something inappropriate or possibly damaging to the team.

_____   5. Team members willingly make sacrifices (such as budget, turf, head count) in their departments or areas of expertise for the good of the team.

_____   6. Team members openly admit their weaknesses and mistakes.

_____   7. Team meetings are compelling, and not boring.

_____   8. Team members leave meetings confident that their peers are completely committed to the decisions that were agreed on, even if there was initial disagreement.

_____   9. Morale is significantly affected by the failure to achieve team goals.

_____   10. During team meetings, the most important—and difficult—issues are put on the table to be resolved.

_____   11. Team members are deeply concerned about the prospect of letting down their peers.

_____   12. Team members know about one another's personal lives and are comfortable discussing them.

_____   13. Team members end discussions with clear and specific resolutions and calls to action.

_____   14. Team members challenge one another about their plans and approaches.

_____   15. Team members are slow to seek credit for their own contributions, but quick to point out those of others.

Lencioni, P. (2002). *The five dysfunctions of a team: A leadership fable*. San Francisco, CA: Jossey-Bass.

Appendix C: Scoring Sheet for Five Dysfunctions of a Team Survey

Scoring
Combine your scores for the preceding statements as indicated below.

Dysfunction 1: Absence of Trust	Dysfunction 2: Fear of Conflict	Dysfunction 3: Lack of Commitment	Dysfunction 4: Avoidance of Accountability	Dysfunction 5: Inattention to Results
Statement 4: _____	Statement 1: _____	Statement 3: _____	Statement 2: _____	Statement 5: _____
Statement 6: _____	Statement 7: _____	Statement 8: _____	Statement 11: _____	Statement 9: _____
Statement 12: _____	Statement 10: _____	Statement 13: _____	Statement 14: _____	Statement 15: _____
Total: _____	Total: _____	Total: _____	Total: _____	Total: _____

A score of 8 or 9 is a probable indication that the dysfunction is not a problem for your team.
A score of 6 or 7 indicates that the dysfunction could be a problem.
A score of 3 to 5 is probably an indication that the dysfunction needs to be addressed.

Regardless of your scores, it is important to keep in mind that every team needs constant work because without it, even the best ones deviate toward dysfunction.

Lencioni, P. (2002). *The five dysfunctions of a team: A leadership fable*. San Francisco, CA: Jossey-Bass.

Appendix D- Hazelwood School District Data Team Self Reflective Scoring Guide

Steps	Advanced	Proficient	Basic
Collect and Chart Data and Results	o Data is assembled and organized o Multiple data sources o Pre- and post-test results indicate the number of students who are proficient o Team members agree on what proficient performance looks like o Results are disaggregated and individual student data is analyzed	o Data is assembled o Pre-test/post-test data is used o Results usually include the number of students who are proficient o School, Grade Level, Team, Department, or Classroom results are analyzed	o Data is not assembled o A common pre-test/post-test is not used o Proficiency level is not defined o Group results are analyzed
Analyze Strengths and Obstacles	o Targeted needs have an impact on multiple subject areas (leverage, endurance, skill needed for the next grade level) o Team members collaboratively analyze student work o Needs are prioritized across content areas	o Identification of strengths and weaknesses are within a teacher's control o Needs are prioritized within a content area	o Identification of strengths and weaknesses is inconsistent o Blame for performance is attributed to factors out of school and/or teacher control o Needs are identified but not prioritized
Goals	o Goals reflect consideration of students who are "almost proficient" o SMART goals established for each targeted student in need of support	Group goals are: • **S**pecific • **R**elevant • **M**easurable • **T**imely • **A**chievable	o Established goals are academic or behavioral but may not be specific, measurable, achievable, relevant, or timely
Instructional Strategies	o Strategies are research-based and impact multiple content areas (MSIP IV Observation Form or Marzano's Nine) o Strategies prioritized for impact on student achievement o Differentiating to meet individual needs is evident o Teacher always models strategies o Teacher reflects through journaling or peer observation	o Strategies reflect actions of adults in the school or district that can change the thinking of students o Strategy instruction is observed o Teacher usually models strategies	o Strategies are identified but are not identified as significantly impacting student achievement o Teacher introduces strategies but does not model instructional strategies with consistency
Determine Results Indicators	o Indicators monitor the impact of the strategy o Indicators describe the change in student performance to be expected if the strategy has the desired impact o Course correction is evident if student achievement does not improve	o Indicators describe teacher and student behaviors that will be seen if the selected strategies are implemented o Indicators describe the change in student performance if the expected strategy has the desired impact	o Result indicators are identified; changes in student and teacher behavior are not identified or monitored

Steps	Advanced	Proficient	Basic
Member Participation	o Team members apply practices to classrooms and serve as models for other team members or teachers o Action research is evident as team members use and modify strategies and delivery models o Team members actively solicit ideas from each other o The purpose of Data Team Meetings is clear o Team members bring appropriate documentation to the Data Team Meetings o Fidelity to implementation is consistent	o Team members actively seek to understand instructional practices described in Data Team Meetings o Team members openly reflect upon strategies and instructional delivery models o Team members share ideas, successes, and challenges o Team members adhere to Data Team Meeting times and purpose o Team members bring evidence and other required resources to the Data Team Meeting to insure fidelity to implementation	o Team members have an inconsistent understanding or inconsistently apply instructional practices described in Data Team Meetings o Team members discuss strategies and instructional delivery models o Team members share some ideas, successes, and challenges o Data Team Meetings are scheduled and agendas are written; adherence to times, agenda, and Data Team purpose is beginning o Team members bring random evidence of student performance Data Team meetings
Norms	o Norms are collaboratively developed o Norms are internalized o Norms are modified as necessary o The Data Team serves as a model for professional behavior for other teams in the school and/or district	o The Data Team operates by clearly defined and collaboratively developed norms of professional behavior o Norms are referenced prior to each Data Team Meeting	o Norms of behavior are externally imposed o Norms are understood but not necessarily agreed upon
Minutes	o Minutes are detailed o Minutes include a list of the team members present, contributions of each member, and communication methods for those not present o Minutes describe the agreed-upon strategies and results indicators as well as modifications that happen between Data Team Meetings if the strategies do not meet student needs o Results indicators reflect desired changes in both student and teacher behaviors o Minutes are available within one week of the Data Team Meeting	o Minutes are an accurate representation of the meeting process o Minutes include a list of the members present and the contributions of each Data Team Member o Minutes describe the agreed-upon instructional strategies and results indicators Data Team Members will utilize o Results indicators reflect desired changes in student and/or teacher behaviors o Minutes are available to Data Team Members within two weeks	o Minutes of Data Team Meetings are available; minutes relay items discussed and understood by the Data Team members present o Members include a list of members present o Minutes describe some instructional strategies and results indicators that Data Team Members will use o Result indicators reflect desired changes in student behaviors o Minutes are available to Data Team Members within three weeks

Steps	Advanced	Proficient	Basic
Agendas	o Agendas include the Five Steps of the Data Team Process with an outline of the time available for each step of the process o Agendas indicated targeted instructional area and accompanying Hazelwood School District Power Standard o Agendas indicate the 1) date of the next Data Team Meeting; 2) the date of the next assessment, and, 3) a list of documentation needed for the next Data Team Meeting o Agendas are focused entirely on the collaborative analysis of student work o Agendas include reflections of current team status against the goals	o Agendas outline the Five Steps of the Data Team Process o Agendas indicate targeted instructional area o Agendas include the date of the next Data Team Meeting and the date of the next assessment o Agendas are focused mostly on the collaborative analysis of student work	o Agendas list the topics to be discussed in the Data Team Meeting o Agenda topics may or may not be completed during the Data Team meeting o Agendas indicate a window of time in which a Data Team Meeting may take place o Agendas are focused on the collaborative analysis of student work but the Data Team Meeting does not adhere to the agenda
Scheduling	o Interim meetings are scheduled to collaborate on strategy implementation and to make required adjustments to instruction o Data Team Meetings are held weekly and are scheduled for at least 45 minutes of uninterrupted time	o Data Team Meetings are held at least twice a month and are scheduled for at least 45 minutes of uninterrupted time	o Data Team Meetings are held at least monthly and are scheduled for at least 45 minutes of uninterrupted time
Data	o Results are available within one (1) week of the assessment o Results are disaggregated by school, Grade Level, Team, and Department, significant subgroups, **AND** individual student o Data supports timely, specific, relevant feedback to teachers and students to improve performance; supports independent student goal setting o All involved stakeholders have access to the data	o Results are available within two (2) weeks of the assessment o Results are disaggregated by school, Grade Level, Team, or Department, **AND** significant subgroups o All team members have results, including support personnel o Data supports timely, specific, relevant feedback to teachers to improve performance	o Results are available within three (3) weeks of the assessment o Results are disaggregated by school **AND** Grade Level, Team, or Department o Results are not consistently available to all o Data does not supports timely, specific, relevant feedback to teachers to improve performance
Follow Up	o Support is available to Data Teams o When needed, coaching is provided o Data Team Leaders meet with the Building Data/PDC Committee, which includes the Building Leadership Team, to discuss building-wide accountability (vertical teams)	o Clear time lines and responsibilities are outlined in Data Team Meetings; resources and support are also identified o Data Team Leaders meet with the Building Data/PDC Committee to discuss building-wide accountability (vertical teams)	o Data Team Meetings are beginning o Data Team Leaders meet with the Building Data/PDC Committee to discuss building strengths and weaknesses

Steps	Advanced	Proficient	Basic
Administration	o Leadership Team is present during Data Team Meetings o Leadership Team has clearly identified action steps to support Data Teams o Leadership Team serves as a model for administrative support of the Data Team process o Action Research is the basis of faculty learning that links student achievement results to adult variables o Administrator anticipates and coaches Data Team Leaders about Data Team goals and identified, prioritized areas of need o Leadership Team researches the instructional practices selected by the Data Teams o Leadership Team is aware of and provides regular opportunities for team members to publicly share instructional practices during faculty or other meetings o Leadership Team provides structures that allow coaching, teacher modeling, observations, or WalkThroughs to allow teachers to learn from teachers o Leadership Team always celebrates the successes of Building **AND** Grade Level, Team, or Department Data Teams with external and internal stakeholders	o Leadership Team is knowledgeable about the Data Team Process; attends at least every other Data Team Meeting o Leadership Team provides time for collaboration on a scheduled, consistent basis o Leadership Team models an inquiry-based attitude, which is evidenced in some action research-based learning of the faculty that begins to link student achievement results to adult variables o Leadership Team is aware of Data Team goals and identified, prioritized areas of need o Leadership Team is aware of the instructional practices selected by the Data Team o Leadership Team is able to articulate the resources and/or materials identified by the Data Team that support selected practices o Leadership Team promptly provides support identified by Data Teams o Leadership Team frequently celebrates the successes of Building **AND** Grade Level, Team, or Department Data Teams	o Leadership Team attends at Grade Level, Team, or Department Data Team Meetings at least monthly o Leadership Team provides time for collaboration o Leadership Team is aware of Data Team goals and identified, prioritized areas of need o Leadership Team is aware of the some of instructional practices selected by the Building Data Team o Leadership Team sometimes provides support (time and/or materials) identified by Data Teams o Leadership Team occasionally celebrates the successes of Building **AND** Grade Level, Team, or Department Data Teams

Appendix E

Sample of Tungsten Communication Arts Benchmark Assessments

Grade 4 MO Reading No. 3 Nov 2008

Use the following information for answering question(s): 1, 2, 3, 4, 5

My Cat, Rascal
by Jan Jones

Last week when I got on the bus
And sat down next to my friend Gus,
My cat jumped in and sat with us.

Oh no, I thought, this will not do.
5   Rascal, who's stubborn as a mule,
Has gotten a ride to school. Not cool!

When it was time to go to class,
My cat decided to trespass
And sneaked inside without a pass.

10   I looked for him while we did sing --
My cat is not a real small thing.
That's when I heard a faint purring.

Between my feet, under my chair,
My cat sat quietly -- that was rare.
15   I wondered how long he'd stay down there.

While we did math, he decided to sneak
From desk to desk 'til Johnny shrieked.
Since Johnny had been in trouble all week,

My teacher said, "Don't fool around.
20   Johnny, don't make another sound.
Noises are for the playground."

Later that morning, we went out for recess.

Rascal was wild, as you might have guessed.
He meowed to play, and the children yelled, "Yes!"

25   So far, my cat had not been seen
By my stern teacher, Elizabeth Green,
Or by any other adult on the scene.

But that was all about to change,
For when our seats were rearranged,
30 Rascal's behavior became very strange.

He crouched, he sprung, then landed on top
Of Miss Green's head. She fell, kerplop!
I yelled to Rascal, "This must stop!"

But Rascal was tired of being good
35 And behaving as nice visitors should,
So he hid inside of my jacket hood.

For just a few minutes, he stayed out of sight,
Then he leaped at the fish bowl with all of his might
And swallowed our goldfish with just one bite.

40 Miss Green got up from her place on the floor
And pointed her finger at the door,
"That cat is not welcome here anymore!"

That night, my dad asked, "By the way,
Did you have fun at school today?"
45 "Not really," was all I decided to say.

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Question #1

Which could you leave out if you were summarizing the poem for your class?

☐   The narrator sat next to a friend named Gus.

☐   The narrator has a pet cat named Rascal.

Error! Hyperlink reference not valid. ☐

Rascal jumped on the bus and followed the narrator to school.

☐ Rascal did many bad things in the narrator's classroom.

Question #2

Near the beginning of the poem, the author says that Rascal is "stubborn as a mule" to --

☐ tell what kind of animal Rascal is

☐ help show how Rascal looks

☐ show what Rascal sounds like

☐ help show how Rascal acts

Question #3

Read this line from "My Cat, Rascal."

That's when I heard a faint purring.

Based on the following dictionary entry, which definition of "faint" is used

here?

faint (fānt) *v.* **1.** to pass out or lose consciousness. *adj.* **2.** pale, light in color. **3.** quiet, soft in sound. **4.** weak; without energy or strength.

☐   definition 1

☐   definition 2

☐   definition 3

☐   definition 4

Question #4

Read these lines from "My Cat, Rascal."

For when our seats were rearranged / Rascal's behavior became very strange.

Adding "re-" to the word "arranged" makes a new word that means --

☐ to put in order again

☐ without order

☐ before putting in order

☐ to order

Question #5

Which does Rascal do last?

☐ He lands on someone's head.

☐ He eats a pet fish.

☐ He hides inside a hood.

☐ He jumps into a bus.

Use the following information for answering question(s): 6, 7, 8, 9, 10

The Fox and the Crow

Fox once saw Crow fly off with a piece of cheese in her beak and settle on a branch of a tree. "That's for me, as I am hungry," said Fox, and he walked up to the foot of the tree.

"Good day, Mistress Crow," he cried. "How well you are looking today: how glossy your feathers; how bright your eyes. I feel sure your voice must be far superior to that of other birds, just as your beauty is; let me hear but one song from you that I may greet you as the Queen of Birds."

Crow lifted up her head and began to caw her best, but the moment she opened her mouth, the piece of cheese fell to the ground, only to be snapped up by Fox.

"That will do," said he. "That was all I wanted. In exchange for your cheese, I will give you a piece of advice for the future. Always remember, never trust a flatterer!"

Question #6

Why does Fox give Crow so many compliments?

☐   He wants to get her cheese.

☐   He thinks she is very beautiful.

☐   He wants to hear her sing.

☐   He wants her to be his friend.

Question #7

How is Fox different from Crow?

☐ Fox is shy, but Crow is bold.

☐ Fox likes to sing, but Crow likes to play tricks.

☐ Fox is tricky, but Crow is trusting.

☐ Fox likes to eat cheese, but Crow does not.

Question #8

When this story was written, the author thought it was important to --

☐ entertain children with funny stories

☐ teach children to beware of people who might be trying to trick them

☐ give children instructions for taking cheese from crows

☐ teach children that foxes are smart but tricky animals

Question #9

Read this sentence from the passage.

"Always remember, never trust a flatterer!"

What is a "flatterer"?

☐ someone who is not well-rounded

☐ someone who is easily fooled

☐ someone who is very clever

☐ someone who gives compliments

Question #10

What will Crow most likely do in the future?

☐ not trust Fox

☐ use compliments to trick someone

☐ eat less cheese

☐ spend more time singing

Use the following information for answering question(s): 11, 12, 13, 14, 15

Peeper Keepers
by Donna P. Dowdy

Jeepers, creepers, what amazing peepers! Your two eyes work hard to let you see the world around you.

Eyes are like tiny cameras with special parts to protect them and keep them working. You could call these special parts "peeper keepers."

One of your peeper keepers is called an orbit. It is the socket, or cup, that holds the eye. Feel the hard bone all around your eye. That's the orbit. It protects the eye from hits and falls.

The hairy eyebrows above the orbits are peeper keepers, too. They shade your eyes in sunlight and keep sweat from rolling into them.

The little rows of hair on the top and bottom lids of your eye are eyelashes. These peeper keepers catch tiny bits of dust and dirt.

At the first sign of danger, another peeper keeper shuts tight. Quick as a flash, your eyelid closes. It protects your eye with a soft cushion of skin.

When your eyelid shuts, tears ooze into your eye. They come from little glands under your lid and at the corner of your eye. These tears keep your eyelid moving smoothly.

Tears clean your eyes, too. If a speck of dirt gets in your eye, your tears will wash it

out. Tears are mostly salty water, but they also have a germ killer in them. Every time you blink, germ-killing tears spread over your eyes. And since you may blink as many as thirty times in one minute, it's no wonder that your eyes are two of the cleanest places on your body.

You don't have to do anything to get your peeper keepers to work. These special little parts of your eyes are always at work, protecting and cleaning your eyes. They work so well, you hardly even notice them.

But the peeper keepers cannot keep your eyes healthy all by themselves. You must be a peeper keeper, too. Learn the peeper keeper rules below.

Keep your amazing eyes healthy, and they will amaze you with wonderful sights for a long, long time.

Follow these peeper keeper rules:

- Protect your eyes from accidents. Wear safety goggles when you play sports or when you are near someone using power tools.
- Protect your eyes from too much sun. Wear sunglasses that block harmful UV rays.
- If something gets in your eye, rinse it out with clean cool water. Never rub your eye.
- See your eye doctor for regular check-ups.

From Humpty Dumpty, copyright © 1993 by Children's Better Health Institute, Benjamin Franklin Literary & Medical Society, Inc., Indianapolis, Indiana. Used by permission.

Photos courtesy of the National Eye Institute

Question #11

This article mostly tells about --

☐   how your eyes are able to see

☐   how your eyes keep healthy

☐   how to protect your eyes from the sun

☐   how tears kill germs

Question #12

At the beginning of the article, the author compares eyes to --

☐ cups

☐ cameras

☐ planets

☐ bones

Question #13

Which question cannot be answered by information given in the passage?

☐ How do eyebrows help protect the eye?

☐ Why are tears important to the health of the eye?

☐ Why do eyes come in different colors?

☐ What should you do if something gets in your eye?

Question #14

What is probably the reason you shouldn't rub your eye if something gets in it?

☐ Rubbing might help wash out and clear your eye.

☐ Rubbing might cause the salt in your tears to sting your eyes.

☐ Rubbing might cause germ-killing tears to flow.

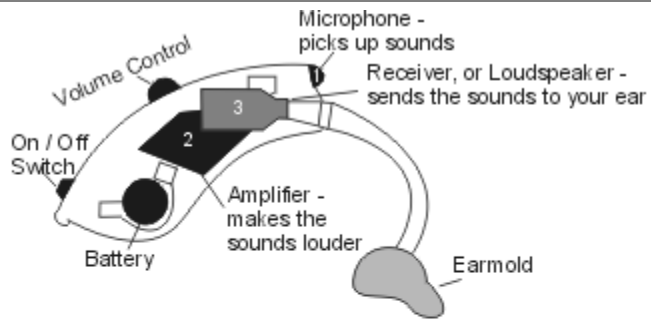☐ Rubbing might scratch your eye more.

Question #15

The most information about how the eye works would be found in --

☐ a thesaurus

☐ an atlas

☐ a dictionary

☐ an encyclopedia

Use the following information for answering question(s): 16, 17


A hearing aid has three main parts:

1 - Microphone
2 - Amplifier
3 - Receiver

Microphone - picks up sounds

Receiver, or Loudspeaker - sends the sounds to your ear

Volume Control

On / Off Switch

Amplifier - makes the sounds louder

Battery

Earmold

The microphone changes sounds into electrical signals.

1 Microphone

Electrical Signals

Next, the electrical signals are amplified by the amplifier. The amplifier increases the electrical signals from the microphone into bigger signals.

2 Amplifier

The receiver, or loudspeaker, transforms the amplified electrical signals into sounds.
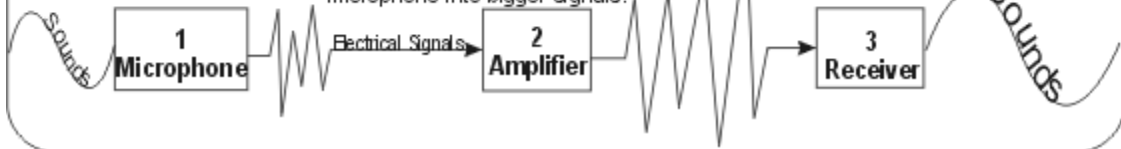
3 Receiver

Sounds

Question #16

Based on this diagram, which part of the hearing aid changes the electrical signals into sounds?

☐ the receiver

☐ the amplifier

☐ the microphone

☐ the battery

Question #17

This diagram was created in order to --

☐   tell how hearing aids are made

☐   describe how ears work

☐   explain how a hearing aid works

☐   show how a hearing aid looks

Use the following information for answering question(s): 18, 19, 20

Pedro's teacher asked the class to write a paragraph about a funny experience they have had with an animal. Here is Pedro's first draft.

Andy's Favorite Chair

(1)My cat, Andy, is large, orange, and a little cranky. (2)He is very old. (3)He doesn't move very quickly. (4)Well, last thanksgiving, my grandmother was visiting from Mexico. (5)She is a very small woman who doesn't weigh very much at all. (6)When it was time for dinner, my grandmother sat in her chair. (7)Right away, she got a very strange look on her face. (8)Just then, we heard an angry growling sound. (9)My grandmother screamed jumped up and ran into the yard. (10)We looked at her chair. (11)There sat Andy, looking very angry about having to share his favorite chair with anyone!

Question #18

Read sentence 4 from Pedro's paragraph.

Well, last thanksgiving, my grandmother was visiting from Mexico.

Which part of the sentence contains an error in capitalization?

☐   <u>Well, last thanksgiving,</u>

☐   <u>my grandmother</u>

☐   <u>was visiting</u>

☐   <u>from Mexico.</u>

Question #19

Read sentence 9 from Pedro's paragraph.

My grandmother screamed jumped up and ran into the yard.

What is the correct way to write this sentence?

☐   <u>My grandmother, screamed, jumped up, and ran into the yard.</u>

☐   <u>My grandmother screamed, jumped up, and ran into the yard.</u>

☐   <u>My grandmother screamed, jumped up and, ran into the yard.</u>

☐   <u>My grandmother screamed jumped up, and ran into the yard.</u>

Question #20

What is the best way to combine sentence 2 and sentence 3?

☐ He is very old, but he doesn't move very quickly.

☐ He is very old, so he doesn't move very quickly.

☐ He is very old he doesn't move very quickly.

☐ He is very old and, he doesn't move very quickly.

Vitae

Brenda C. Rone is currently the principal at McNair Elementary School in the Hazelwood School District in St. Louis, Missouri. All of her teaching experiences prior to this appointment also took place within the Hazelwood School District. She spent five years as the Instructional Specialist at Lawson Elementary School. Other teaching experiences included third and fifth grade level assignments at Coldwater, Grannemann, and Lawson Elementary Schools.

Ms. Rone holds a Master of Arts Degree in Communication Arts and Instruction from Webster University, with additional hours for Administrative Certification from Lindenwood University, and a Bachelor of Science Degree in Elementary Education from the University of Missouri - St. Louis. She expects to receive her Ed. D in Administration from Lindenwood University in August 2009.