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A Collaborative Approach To School Leadership In Improvement

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A COLLABORATIVE APPROACH TO SCHOOL LEADERSHIP IN IMPROVEMENT

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ABSTRACT

The primary purpose of this quantitative study was to determine whether collaborative leadership and teacher collaboration predict student achievement. Specifically, the study sought to discover if there is a significant relationship between collaborative leadership and student achievement and if there is a significant relationship between teacher collaboration and student achievement. Descriptive statistics and linear regression were used to interpret and analyze the data for the study. There were 342 respondents who participated in the study. Respondents included 245 elementary and 97 middle school participants. Respondents were invited to complete the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey provided information pertaining to shared values/beliefs in the school. Growth model data were collected from each participating school in the areas of English/language arts and math. An average growth model average for two years (2010 and 2011 school years) was used for both English/language arts and math. Data were analyzed through linear regression. Based on the significant findings of the data analysis of the research, the following conclusions were made. There was an extremely small relationship between collaborative leadership and English/language arts. Based on the results, collaborative leadership cannot serve as a predictor of students' English/language arts achievement. There was an extremely small relationship between collaborative leadership and math growth model average scores which means that based on the results of this study, collaborative leadership cannot serve as a predictor of students' math achievement. It was determined there was a small

relationship between teacher collaboration and English/language arts scores. This linear regression revealed that the predictor (teacher collaboration) may have the ability to predict English/language arts growth model scores. There was an extremely small relationship between teacher collaboration and math growth model average scores. Based on this study this linear regression revealed that the predictor (teacher collaboration) does not have the ability to predict math growth model scores.

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CHAPTER 1

INTRODUCTION

Today's school leaders are faced with many more responsibilities than discipline and the day-to-day managerial tasks of running a building. Today one of the most important responsibilities of principals is that of a learning leader. Teachers learn more from one another when they work in teams than from a single supervisor assuming the role individually as instructional leader, running independently from teacher to teacher giving advice (Schmoker, 2006). School leaders must be able to facilitate such ongoing learning through learning and leading with the teachers in data-driven, ongoing collaborative learning communities. It is through this approach that teachers are supported professionally through ongoing professional growth and that teams of teachers are most effective at meeting students' needs both independently and collectively. If today's school leaders are going to most effectively lead they cannot rely on one leadership style but must lead through situational leadership relying on the most effective characteristics of various leadership styles. They must also think about leadership from a distributed perspective recognizing the need to move beyond a heroic plot of leading, moving beyond the principal to include other potential leaders within the school setting (Spillane, 2006).

Studies link the importance of collaboration among teachers and leaders, multiple leaders, and educators observing the implementation of specific strategies, searching for different

ways implementers can learn from others. It is especially beneficial to teachers to learn from those teachers in similar circumstances who are further down the line in implementation (Fullan, 2010).

Culture is a key link to ensuring an environment where successful distributed leadership may transpire resulting in professionals learning effective practices and strategies to ensure student growth. Park and Datnow (2009) stated that in order to promote the practice of data-driven decision-making in schools, a culture of continuous improvement must be developed. This requires a delicate balance through district-level support and support from school principals that ensures flexibility at the local level. Educators should feel empowered and able to make data-driven decisions within the context of individual classrooms. Danielson (2006) stated that all leadership activities take place within a cultural context encompassing the school's culture and ethos. A strategy for improving teacher practice is to develop a results-oriented collaborative culture where the staff works as a learning community, a culture that is committed to building the collective capacity of teachers to meet the challenges within the school. Such a culture, based on interdependence, focuses on shared responsibility and mutual accountability (Dufour & Marzano, 2011).

Successful leadership goes beyond leadership theory and the leader implementing theory-based practices to followers. Part of successful leadership practice involves interactions between leaders and followers (Spillane, 2006). Too many classroom teachers still have the urge to work in isolation, reporting to school day after day and working behind closed doors to meet the individual classroom needs. Schmoker (2006) stressed that a system has been created in which generations of talented and hardworking teachers have engaged in inferior practices. Absent has been the much-needed feedback that would alert teachers to this issue. When teachers work in

isolation, they are promoting the idea that teaching is primarily personal and beyond scrutiny. Teachers are professionals and they must behave like professionals. A true professional does not work in isolation but rather works in teams focusing on effectiveness within their practice. Teachers must not only open their classroom doors but they must assume responsibility for continuous growth and development and take an active leadership role in determining the pathway to professional growth.

As Carroll (2004) suggested, effective organizations of the 21st century ensure teams work collaboratively to discuss future trends, discuss current observations within the organization, and determine next steps to ensure the organization is forward-thinking in its approach to meeting the needs to its customers in an ever-changing world. Teachers must recognize that their clients are the students. "This collaborative culture would also require discipline to maintain a focus on student learning," (Blankstein, 2004, p. 51).

School leaders must promote teacher leadership as well. School leaders who are participatory in their leadership style will be successful in building a collaborative school culture, which is needed in today's schools where students must become comfortable with reinventing themselves throughout their lives. Buckingham and Coffman (1999) stressed that the manager's role is to work with employees and help them release their talents into performance. Buckingham and Coffman also stressed that managers must select the right people for specific positions, set expectations, motivate, and then develop those individuals. Today, teachers must have the ability to assume leadership roles.

Fullan (2010) stressed that at the classroom and school level the relationship between instruction and assessment is important to understand so that teachers can tailor instruction to individual needs. Such an approach requires effective leadership at the teacher level. Practice

must be transparent as well so that instructional strategies can be examined for effectiveness by other colleagues within a professional learning team. Schools should compare themselves with themselves, compare themselves to other schools, and compare themselves to an external standard or benchmark such as 90% success in a specific area of focus. Fullan stressed the importance of principals becoming assessment literate to the point where there is a relationship between instruction and assessment. It is through such a relationship that principals can communicate with teachers both vertically and horizontally across curriculums.

> As teachers and principals make this shift from a focus on teaching to a focus on learning, they recognize that they cannot help all students learn unless they work together collaboratively, and they constantly seek tangible evidence that students have truly acquired the intended knowledge, skills, and dispositions. (Dufour, Eaker, & Dufour, 2005, p. 2)

This will ensure that students are learning the basic skills and concepts needed to move to the next level. As Fullan (2010) suggested, the relationship between instruction and assessment will also ensure appropriate scaffolding occurs so that there are no missing links in the learning process in each subject area. This is where true leadership needs to evolve.

Valentine (2006) stressed the importance of understanding a collaborative school culture, the concept of organizational culture, and methods to measure or assess school culture. These concepts are important as a school leadership team, a school improvement team, or a school faculty embarks on the tasks of organizational growth. Additionally, Spillane (2006) stressed that leadership practice takes shape in the interactions between leaders and followers.

Park and Datnow (2009) stressed the idea that leadership is not a personal endeavor but rather a collective phenomenon. Additionally, leadership operates within a network of actors.

School leaders must cultivate a culture where teachers can implement various leadership strategies not only within the classroom but also in collaborative settings with colleagues. Bass (1990) stressed that for any given leader in one situation subordinates are likely to be more experienced, motivated, or better adjusted. Leaders need to deal differently in one situation than another. Leaders must be flexible in their approaches and styles. A culture that embraces collaborative leadership, collegial support, and collaboration amongst colleagues will set the stage for optimizing ongoing professional growth and an increase in student achievement.

Statement of the Problem

Educators are faced with countless initiatives through educational reform and implementation of new legislative decrees. Changes require teachers to grow professionally as they learn to facilitate learning opportunities, model problem-solving strategies, and then support students to ensure increased achievement as they put such strategies and skills into practice.

Marzano and Waters (2009) stated that districts should have specific goals pertaining to continuous improvement of pedagogical skills among teachers. Such goals should be the focus in professional learning communities. Teachers should also share a common language pertaining to instructional strategies and practices. Although teachers should be allowed to use their discretion regarding use of instructional strategies, all students in every class should be expected to show adequate gains as defined in nonnegotiable achievement goals (Marzano & Waters, 2009). The U.S. Department of Education (2010) stressed the importance of effective teachers and principals in every school, where states and districts develop and implement systems of teachers and principal evaluations to identify effective and highly effective teachers based on student growth and other factors. Through such systems, specific needs for professional development and help for teachers and principals will be identified.

Wirt and Kirst (2005) stressed that professional educators have resources, and they must define choices and produce research as to provide recommendations for future decisions in education. Educators must face today's challenges in education in teams, and they must act as educational leaders sharing their knowledge and areas of expertise to ensure success in the professional team for which they serve. Additionally, Marzano and Waters (2009) found that action research projects are the most powerful tools in developing an understanding of which instructional strategies have the most credible causal link between specific instructional strategies and student achievement.

Schmoker (2001) interviewed teachers in high performing schools and found that teachers, when given opportunities to collaborate, viewed collaborative teams as a way to get higher achievement results. Although collaborative cultures are powerful, Schmoker (2001) also pointed out that in order to see such gains in achievement, due to collaborative efforts, the teams must focus on the right things. Schools and districts need to create a systematic process to ensure collaborative teams are focusing on the right work. Through such a focus teams can analyze and impact their practice in ways that will ensure improved results.

Dufour and Marzano (2011) stated that principals benefit from a collaborative team structure of the professional learning community process because it provides an opportunity for schools to create shared leadership. In order for collaborative leadership to be successful, teachers and principals should share similar beliefs and values with regard to a school culture, including collaborative practices and routines that promote ongoing professional development. Optimizing school reform initiatives may require that leaders understand school culture to optimize school improvement initiatives.

Given the constant pressures put on teachers to implement new school reform initiatives,

teachers must find ways to continue and focus on collaborative practices in professional learning communities. Dufour et al. (2005) wrote, "The best professional development occurs in the context of the workplace rather than the workshop as teachers work together to address the issues and challenges that are relevant to them" (p. 19). Do the pressures put on today's teachers affect the quality of collaboration among teachers or the collaborative leadership within the schools?

Purpose of the Study

The purpose of this quantitative study was to determine whether collaborative leadership and teacher collaboration predict student achievement. Specifically, the study sought to discover if there is a strong relationship between collaborative leadership and student achievement or if there is a strong relationship between teacher collaboration and student achievement.

This study utilized the school culture survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey (Appendix A) provides information relative to shared values/beliefs in the school. The factors measure specific aspects of a school's collaborative culture. The measured factors are

1. Collaborative Leadership: Measures the degree to which school leaders establish and maintain collaborative relationships with school staff.
2. Teacher Collaboration: Measures the degree to which teachers engage in constructive dialogue that furthers the educational vision of the school.
3. Professional Development: Measures the degree to which teachers value continuous personal development and school-wide improvement.
4. Collegial Support: Measures the degree to which teachers work together effectively.
5. Unity of Purpose: Measures the degree to which teachers work toward a common mission for the school.

6. Learning Partnership: Measures the degree to which teachers, parents, and students work together for the common good of the student. (Gruenert & Valentine, 1998, p. 1)

The instrument was administered to teachers and principals in elementary and middle schools throughout Indiana electronically via SurveyMonkey. Permission to use the survey is contained in Appendix B.

Research Questions

The research questions for the study were as follows:

1. Does collaborative leadership predict student English/language arts achievement?
2. Does collaborative leadership predict student math achievement?
3. Does teacher collaboration predict student English/language arts achievement?
4. Does teacher collaboration predict student math achievement?

Null Hypotheses

The following represented the null hypotheses for the study:

$H_0$1. Collaborative leadership does not predict student English/language arts achievement.

$H_0$2. Collaborative leadership does not predict student math achievement.

$H_0$3. Teacher collaboration does not predict student English/language arts achievement.

$H_0$4. Teacher collaboration does not predict student math achievement.

Definitions

Collaborative leadership score measures the degree to which school leaders establish, maintain, and support collaborative relationships with and among school staff. School leaders value teachers' ideas, seek input, engage staff in decision-making, and trust the professional judgment of the staff. Leaders support and reward risk-taking and innovative ideas designed to improve education for the

students. Leaders reinforce the sharing of ideas and effective practices among all staff (Gruenert & Valentine, 1998).

Collaborative learning community refers to teachers working together studying and discussing student data such as test scores or authentic work, teaching strategies, or professional literature to make informed decisions for teaching the students they serve.

Distributed leadership involves the principal working with multiple leaders in the school setting including, but not limited to, assistant principals, literacy coaches, curriculum director, and teacher leaders (grade level coordinators) as teachers assume leadership roles in collaborative learning communities.

Elementary setting refers to elementary buildings with students in Grades K-6.

English/language arts growth model score refers to the model the Indiana Department of Education uses to measure individual student academic growth in the area of English/language arts in relationship to students with similar academic scores throughout the state of Indiana. Indiana Statewide Testing for Educational Progress (ISTEP+) results are utilized and student scores are categorized from one year to the next to determine a specific growth model score.

Math growth model score refers to the model the Indiana Department of Education uses to measure individual student academic growth in the area of math in relationship to students with similar academic scores throughout the state of Indiana. ISTEP+ results are utilized and student scores are categorized from one year to the next to determine a specific growth model score.

Middle school setting refers to middle school buildings with students in grades ranging from 6 to 8.

Principal in this study refers to the head school leader of the kindergarten-sixth grade building or any configuration of sixth to eighth grade building.

School culture refers to

> a complex pattern of norms, attitudes, beliefs, behaviors, values, ceremonies, traditions and myths that are deeply engrained in the very core of the organization. It is the historically transmitted pattern of meaning that wields astonishing power in shaping what people think and how they act. (Barth, 2002, p. 7)

Standardized testing refers to testing that is administered and scored in a uniform or standard manner. The test is administered under controlled conditions to ensure consistency.

Teacher refers to classroom instructor in Grades K-8 in this study.

Teacher collaboration score measures the degree to which teachers engage in constructive dialogue that furthers the educational vision of the school. Teachers across the school plan together, observe and discuss teaching practices, evaluate programs, and develop an awareness of the practices and programs of other teachers.

Teacher leader refers to "teachers who continue to teach students but also have an influence that extends beyond their own classrooms to others within their own school and elsewhere" (Danielson, 2006, p. 12).

Significance of the Study

Today's school leaders are faced with increased responsibilities as they focus on school reform initiatives that will result in increased student achievement. Evidence supports that principals' leadership is important to promoting an environment where conditions include shared vision and norms around instruction, norms of collaboration, and a sense of collective responsibility for student achievement (Spillane, Halverson, & Diamond, 2004). School principals must set the stage for increasing capacity within the school teaching staff to include knowledge, skills, and dispositions of teachers individually and collectively (Fullan, 2010). Capacity building can be supported through distributed leadership. Danielson (2006) stressed

the importance of a staff culture of professional inquiry when setting a vision for student learning that drives improvement efforts. Danielson stressed that encouraging teacher leadership is an approach to supporting professional inquiry.

The purpose of this study was to examine whether or not there is a strong relationship between collaborative leadership efforts and student achievement and teacher collaboration efforts and student achievement. Specifically, the study was developed to determine if principals' and teachers' collaborative leadership efforts and teacher collaboration efforts can serve as predictors to student achievement in a building. Implications for these findings also provide quantitative data that may reveal whether there is disconnect between the two groups, impacting the collaborative efforts to improve their school. This study utilized a survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey provides information pertaining to shared values and beliefs in the school. The factors measure specific aspects of a school's collaborative culture. This provided quantitative data for administrators and teachers to help focus their efforts on improvement strategies that positively impact student achievement.

Limitations

When dealing with surveys it is possible the respondents' answers may represent only a limited sample of behavior (Golafshani, 2003). Additionally, because teachers and principals completed surveys within the same building, it was possible that teachers felt concerned about guaranteed anonymity which in turn could affect the accuracy of their responses. When dealing with surveys it is also unknown as to what kind of teacher will complete the survey with regard to quality of teacher, a teacher who supports or does not support the school vision, and teacher who is a team player, etc. ISTEP+ growth data for English/language arts and math were studied

to look for a relationship between collaborative leadership and student achievement and to look for a relationship between teacher collaboration and student achievement. When studying standardized testing there is always the possibility of measurement error within the standardized testing.

Delimitations

This study was delimited to elementary and middle school principals and teachers who chose to participate in this study. All Indiana public elementary and middle school principals and teachers of students participating in ISTEP+ testing, Grades 4-8 only, and those who had growth model score data were invited to participate in the study. This study used 2011 and 2012 growth model data from standardized testing.

Summary and Organization of the Study

This study is divided into five chapters. Chapter 1 provided introduction, the statement of the problem, purpose of the study, research questions, null hypotheses, definition of terms, significance of the study, and limitations and delimitations. Chapter 2 presents a review of the literature and is subdivided into educational leadership, building-level educational leadership, developing teacher leadership, teacher leadership impacting curriculum, instruction and student learning, developing collaborative learning teams, and the culture within the building. Chapter 3 presents information about the methodology used during this study, including description of the sample, data sources, data collection procedures, and method of analysis. Chapter 4 presents findings through the quantitative analyses of Hypotheses 1, 2, 3, and 4. Chapter 5 presents a summary of the findings, conclusions, implications, and recommendations for further research.

CHAPTER 2

REVIEW OF THE LITERATURE

Educational Leadership

Leadership is a mixture of authority and democracy (Fullan, 2010). There are various leadership styles that educational leaders can adopt and practice in schools. Leadership, as stated by Park and Datnow (2009), is not solely an individual or personal endeavor. Leadership involves a collective approach that must operate within a network of actors. Bass (1990) stated that "leaders manage and managers lead, but the two activities are not synonymous. Leaders facilitate interpersonal interaction and positive working relations; they promote structuring of tasks and the work to be accomplished" (p. 383).

Leadership styles can range from participatory styles to an autocratic style. Bass (1990) stressed,

> There are only two ways of changing a follower's behavior (apart from using drugs or physical force). The leaders either alter the follower's information, understanding, and ability to cope with the task at hand or the follower's motivation to deal with the task. When the leader has more relevant knowledge than the follower, task-focused direction provides for the necessary transfer of information. Powerful leaders can arouse motivation. But in many situations in which followers have as much or more information than the leader or in which power is more widely shared, the motivation of followers is

> more likely to depend on involving them in decisions about handling the task and their concerns about it and themselves. (p. 419)

In participatory or democratic leadership styles, leaders of these approaches include others in the ultimate decision-making process and encourage feedback, innovation, and creativity. Through an autocratic style of leadership, administrators believe it is essential to be involved with every aspect of the daily running of an educational institution. The autocratic leadership style tends to discourage creativity and innovation (Simplicio, 2011). English and Furman (2007) suggested that there is no one leadership style that will prove to be effective in all contexts. Instead, as Eacott (2011) pointed out, the strategic tasks of effective educational leaders revolve around a combination of complex factors which include historical, cultural, social, and political influence. Eacott went on to suggest that in order to truly understand strategic leadership practice, we must consider leaders' behavior and thinking as well as their situations.

Leadership styles were categorized into six styles by Goleman (2000) as coercive, authoritative, affiliative, democratic, pacesetting, and coaching. Goleman suggested that leaders need many styles of leadership. He stated the authoritative, democratic, affiliative, and coaching styles are styles that can lead to a positive climate resulting in strong performance by followers while coercive and pacesetting leadership styles can negatively impact climate, therefore impacting performance negatively (Goleman, 2000). Table 1 defines each of Golman's leadership styles.

Table 1

Goleman's Six Leadership Styles

Leadership Style	Leader's Modus Operandi	Style in Phrase
Coercive	Demands immediate compliance	"Do what I tell you."
Authoritative	Mobilizes people toward a vision	"Come with me."
Affiliative	Creates harmony and builds emotional bonds	"People come first."
Democratic	Forges consensus through participation	"What do you think?"
Pacesetting	Sets high standards for performance	"Do as I do now."
Coaching	Develops people for the future	"Try this."

Note. Adapted from "Leadership that gets results," by D. Goleman, 2000, *Harvard Business Review, 78,* pp. 78-90. Copyright 2000 by the President and Fellows of Harvard College.

Gabatshwane (2011) conducted a study comparing school management teams and teachers' perceptions of preferred leadership styles in selected schools. These styles were placed in three categories to include hierarchical/autocratic, collaborative (to include democratic, transformational and participative), and laissez-fair/delegative. The outcome of the study indicated that teachers preferred some form of a collaborative leadership style. Bass (1990) provided insight into leadership that should be considered as he stated, "For a given leader in one situation or the other, some subordinates are likely to be more experienced, more motivated, or better adjusted to their situation. The leader may need to deal differently with the various kinds of subordinates" (p. 563). Ultimately, the leadership style that leaders choose to use can impact the organization negatively or positively (Simplicio, 2011).

Trottier, Van Wart, and Wang (2008) looked at both transactional and transformational leadership. They determined that both transactional and transformational leadership are

important leadership styles to an organization. They found in their study that when dealing with the traditional daily operations including technical and managerial skills, leaders must function well in practicing the transactional leadership style. Transformational competencies are also important for leaders to understand and apply so that they can emphasize mission articulation, vision, and inspirational motivation. Trottier et al. (2008) cited Bass's expanded operational definition of leadership found in Bass's *Handbook of Leadership* (1996). Bass's operational definitions by categories are presented in Table 2.

Table 2

Bass's Operational Definition of Leadership by Categories

Leadership Style	Leadership Elements
Laissez-Faire Leadership (LF)	Leaders avoid intervening.
Transactional Management by Exception Passive (MBE-P)	Leaders intervene when standards are not met.
Transactional Management by Exception Active (MBE-A)	Leaders monitor performance and take corrective action when necessary.
Transactional Contingent Reward (CR)	Leaders clarify what needs to be done, and reward followers for services rendered.
Transformational Individualized Consideration (IC)	Leaders diagnose and elevate the needs of each follower.
Transformational Idealized Influence (II)	Leaders are a source of admiration by followers and act as role models and enhance follower price, loyalty, and confidence
Transformational Intellectual Simulation (IS)	Leaders stimulate followers to question old assumptions, beliefs, and paradigms.
Transformational Inspirational Motivation	Leaders act as a visionary and get followers to recognize the vision.

Note. Adapted from "Examining the Nature and Significance of Leadership in Government Organization," by T. Trottier, M. Van Wart, & X. Wang, 2008, *Public Administration Review,*

68, pp. 319-333. Copyright 2008 by American Society for Public Administration.

Educational leaders must be thoughtful in their approaches to leadership and recognize that leadership is situational. Additionally, as Bass (1990) suggested, some organizations focus on top-down decision making predominantely while other organizations focus on management characterized by long-term employment, intensive socialization, and clear statements of objectives and values. The emphasis is placed on cooperation and teamwork, which is the case for transformational leadership styles. Specifically, building-level educational leaders are faced with many day-to-day challenges and at the same time they must remain focused on district goals and ensure that those goals are an area of focus and remain tied directly to the building-level needs. Park and Datnow (2009) pointed out that the No Child Left Behind Act of 2001 required educational leaders to focus more prescriptively on data-driven instruction through analyzing, interpreting, and using data to make informed decisions in all areas of education. Such decisions included a range from professional development to student learning. More recently, the U.S. Department of Education (2010) required analyzing and interpreting data as states and districts must develop and implement systems of teacher and principal evaluation to identify effective and highly effective teachers and principals on the basis of student growth and other factors. The reform act required meeting the needs of diverse learners to improve outcomes for all students and close achievement gaps.

Marzano and Waters (2009) stressed the importance of district-level nonnegotiable goals for achievement. The nonnegotiable goals are developed collaboratively and require board alignment and allocation of resources. Marzano and Waters stressed that the way to transform districts and schools into high-reliability organizations is to focus on (a) clear goals that are

monitored regularly, (b) understanding the necessary conditions for which the goals are met, and (c) taking immediate corrective action when the data indicate the goals are not being met. Marzano and Waters stressed that districts should have an explicit goal regarding continuous improvement of pedagogical skills among teachers. School principals can ensure this goal is met through the development of professional learning communities where teachers focus on enhancing such skills in a reflective and cooperative manner.

Park and Datnow (2009) found that research focuses on implementation of data-driven decision-making which includes both school leadership and school-district leadership. This supports Marzano and Waters (2009) pointed out that immediate corrective action must be taken when the data indicate the goals are not being met. Park and Datnow also suggested that such a goal oriented and data-driven approach to student achievement requires leaders to model the process and that such a process must be co-constructed by multiple actors at both the school-district and individual school-building levels. Through the process of modeling, leaders need to talk frequently about assessments as a tool to help determine how to grow students learning (Haycock, 2012); otherwise, the assessments will become a meaningless measure.

Building-Level Educational Leadership

Aguilar, Goldwasser, and Tank-Crestetto (2011) stressed that school leadership is the second most important factor in student achievement. Additionally, Williams (2009) suggested that to transform a school one must consider the roles and responsibilities that involve all staff and nurture collaboration. Effective building-level leaders focus on continuous improvement and get results through goal setting, clear communication with staff, understanding effective instructional practices, and understanding the curriculum. Fostering teacher collaboration and collaborative leadership cultivates an environment where teachers work together to focus on

highly effective practices. Haycock (2012) stressed that good leaders communicate regularly to the teachers regarding how important their work is to the success of student achievement. They do not allow excuses to trivialize the importance of the work that teachers put forth to meet the needs of all learners. The striking proofs of leadership capacity include leaders' ability to promote continuous academic growth and success across the school. Haycock also stated that good leaders articulate clear, consistent mission-focused messages regarding expectations. Their efforts are presented in a way that unifies their teachers around common beliefs and goals.

Today's measurements in school achievement are clearly defined by the Indiana Department of Education in an attempt to ensure students are prepared for a global world with regard to both the economy and opportunities for employment. Townsend (2011) stressed that today, students must be prepared to be global thinkers and that leaders in education too must be global thinkers. Leaders must visit with and collaborate with others beyond the school to ensure success. School success is measured through overall success of the entire student body beginning in third grade, through subgroups of the student body, and at an individual student level. Success is measured in terms of percent passing the state-mandated high-stakes tests beginning at third grade as one indicator. It is also measured at an individual student level considering the percentage of growth from one year to the next when comparing each individual student's growth with students' having similar scores across the state in both English/language arts and math. Students are not only compared to their individual achievements from one year to the next, but they are also measured through comparison of other students across the state with similar academic achievement scores in quartile groups. Through such comparisons schools are given a grade for the public to consider when deciding whether or not the school that their children attend is an outstanding school, good school, average school, or failing school.

Hallinger and Heck (1998) found that principals' involvement in impacting school outcomes is indirect. It is the work of teachers that affect the outcome of school achievement. For this reason, principals should place effort in producing changes in people. Today's building-level leaders must understand their teachers and their talents; they must also understand the curriculum and needs of the students and parents within the community to ensure continuous improvement trends within the school regarding student academic growth both collectively and individually.

Spillane, Hallett, and Diamond (2003) stressed that although formal leadership positions can make an impact on leadership, there is research that supports that a principal's interactive style can motivate teachers to change. They found that in some schools, teachers do not value their bosses and that they do not view them as instructional leaders therefore do not find value in seeking advice from them. Teachers most often construct administrators as leaders because of their cultural capital or interactive style. Pauley and Pauley (2009) noted the importance of communicating in a style that is preferred by individuals. With each personality type, a preferred communication style predominates, so it is important to have an idea of which personality types are more prominent in each individual in order to effectively individualize approaches to leading teachers within the school. Pauley and Pauley (2009) also noted that the desired channels of communication include reactor-nurturative channel, workaholic-requestive channel, persister-requestive channel, dreamer-directive channel, rebel-emotive channel, and promoter-directive channel. Leaders should develop a deep understanding of desired channels of communication if they truly desire to provide individualized and respectful approaches to meeting the needs of every individual they lead. Through this approach principals model the importance effective communication which is critical to both teacher collaboration and collaborative leadership.

Buckingham and Coffman (1999) stressed the importance of understanding not only the skill sets of the teachers but even more so the talents of the teachers. Skills can be addressed through training and ongoing support through professional development opportunities while talents are natural inherent recurring patterns. Such patterns are developed early in an individual's life, and they can be compared to four-lane highways within the brain that basically make up reoccurring patterns based on early experiences in life. The three kinds of talent as described by Buckingham and Coffman include striving (the why of a person), thinking (the how of a person), and relating (the who of a person). Since a great enterprise of a school is the teachers and school leaders have an indirect impact on student achievement, school leaders can address the skill set of individual teachers through professional development opportunities to ensure ongoing development of effective teaching. Building-level leaders can provide individual teachers the opportunity to observe other teachers in action to address areas of weakness. On the contrary, building-level leaders must recognize that areas of concern for talent issues need to be addressed differently. School leaders must first point out to the teacher the deficient areas with regard to talent and how it affects the classroom. An example might be that if a teacher is not organized with regard to numbers and charts to make data-driven instructional decisions, then the teacher must be made aware of the importance of focusing on this and should be paired with a teacher who is talented in this area so that the teacher can address the deficit. The interaction between leader and follower are a critical step in developing a positive outcome which leads to true collaborative leadership.

Spillane et al. (2003) defined instructional leadership as "an influence relationship that motivates, enables, and supports teachers' efforts to learn about and change their instructional practices" (p. 1). Principals must focus on working closely with teachers and interacting with

them in ways that promote improvement of instructional practices through improving skill sets as well as understanding deficits in specific talent. In addition to making the teacher aware of the deficit, it is important for school leaders to consider teacher talents and the make-up of the grade level team so that, as in the previous example, teachers who do think in terms of numbers, charts, and graphs when making instructional decisions can be partnered with the teacher having the deficit so that through collaborative planning the teacher will benefit from such organization.

Developing Teacher Leadership

School leaders that are participatory in their leadership style may be successful in building a collaborative school culture. Buckingham and Coffman (1999) stressed that the manager's role is to work with employees and help them release their talents into performance. Buckingham and Coffman also stressed that managers must select the right people for specific positions, set expectations, motivate and then develop those individuals. There are teachers who have the ability to assume leadership roles. Wright (2008) stated that based on interviews, principals welcomed multiple and distributed sources of leadership. Wright also found that principals referred to distributed leadership under various names to include shared, participatory, democratic, and collaborative leadership.

When leaders choose to embrace teacher leadership, teachers may be selected to participate in leadership opportunities by serving in positions focusing on leading grade level teams (grade level coordinator), coordinating efforts to meet the needs of those students falling behind in a particular subject area (coordinator of interventions), and leading the school through the school improvement process remaining data driven and focused on the vision and goals (school improvement team). Participatory leadership may lead to higher staff morale and a greater shared sense of urgency for remaining focused on the school data to bring the vision to

reality. Participatory leadership requires not only clear communication but also getting the right people in the leadership positions. School leaders must think carefully when selecting teachers for leadership positions. It is important to choose teacher leaders who will challenge thinking and challenge the approach to making the school vision a reality. School leaders should choose teachers capable of communicating the vision, remaining focused on the goals, and embracing healthy competition among other grade-level teams and each other. These chosen teachers should be ones who strive for excellence.

Building leaders that embrace teacher leaders promote capacity building within the school. Gano-Phillips et al. (2011) stated that collaboration in leadership requires flexibility and a willingness to consider new and different approaches. Such an approach also requires a sense of trust to be established. Principals must be open to the ideas the teachers bring to the table to most successfully serve and meet the needs of all students. Powers and Steinbacher-Reed (2011) suggested that teachers may be trained as teacher leaders in the corporation and that they can assume tasks in addition to their teaching roles to include leadership responsibilities such as team leaders and/or curriculum chairs. Teachers must feel invited to share ideas and they must feel respected for their ideas when stating ways the school might change to better serve the students.

It is human nature to judge situations. Individuals bring their own meanings to information due to their personal background information and experiences. It is important for leaders to focus on being listening leaders (Steil & Bommelje, 2004) to control their urge to judge before responding to individuals within schools when communicating. Whitaker (2003) stressed that when principals make decisions there will be controversy. He emphasized the importance of principals listening to teachers when making decisions. This is wise advice as it is the effective teachers who make the most positive impact on student achievement. Principals

should choose grade-level coordinators to serve on the school leadership committee who are able to lead other teachers and show the most results in terms of increased student achievement. Principals should listen closely to the teachers as the leadership committee focuses on making decisions for the school that will most positively impact the entire student body. At the same time teacher leaders must be encouraged to listen to one another open mindedly. York-Barr and Duke (2004) stressed that successful teacher leadership requires active support of both principals and colleagues. A focus must be put on establishing trusting and constructive relationships. In order for such relationships to be developed teachers must listen effectively to one another.

Steil and Bommelje (2004) stressed that effective listening requires four important steps including sensing, interpreting, evaluating, and responding. Each step of the listening process builds upon the next, so before responding to an individual the listener should focus on the initial processes. During the sensing stage, the listener uses multiple senses to understand the message or to construct meaning. Once meaning has been constructed, the listener has moved to the stage of interpreting. In the interpreting stage it is important for listeners to ensure they understand the message in the way the sender expects them to understand. Interpreting requires an understanding of background information. Listening leaders will most successfully interpret if they are conscientious of their personal background information as well as aware of the background information of the sender.

The next step to fully understanding the message of the sender involves evaluating the message. Through evaluation, listeners are able to decide if they agree or disagree with the message and are able to make judgments based on the information provided. It is important throughout the communication process to work through the sensing, interpreting, and evaluative processes before responding. If principals work through the process to fully understand the

views within the school group, then they are in a position to rely on the expertise of their team of teacher leaders when making informed decisions. Likewise, principals will be respected by the teachers and productive leadership will occur.

Teacher Leadership Impacting Curriculum, Instruction, and Student Learning

Teacher leadership needs to be promoted by the principal so that teachers take the lead and focus on the relation between curriculum and instruction and utilize common assessments in ways that guide instruction. Fullan (2010) stressed that at the classroom and school levels the relationship between instruction and assessment is important to understand so that teachers can tailor instruction to individual needs. Practice must be transparent as well so that instructional strategies can be examined for effectiveness. Schools should compare themselves with themselves, compare themselves to other schools, and compare themselves to an external standard or benchmark such as 90% success in a specific area of focus. Through these comparisons, curriculum can be carefully examined and specific strategies and practices can be examined for effectiveness as teachers determine whether or not specific adjustments must be made along the way. Reeves (2010) wrote, "The pursuit of high-impact learning requires not only that we achieve individual and organizational focus, but also that we focus on the right things: teaching, curriculum, assessment, and leadership" (p. 65).

The curriculum is another great enterprise within the school. Effective leaders must understand curriculum. School principals must understand how concepts build upon additional concepts through a scaffolding approach. Spillane (2006) claimed that through a distributed approach, such leadership is manageable. He stated that school leaders must know about content knowledge, pedagogical knowledge, curricular knowledge, and learning. They also must have knowledge of several subject areas which can lead to making wise choices in hiring teachers,

facilitating the selection of curricular materials, observing instruction, and making informed judgments about the quality of instruction. Fullan (2010) stressed the importance of building leaders becoming assessment literate to the point where there is a two-way causal relationship between instruction and assessment. It is through such a relationship that teachers can communicate with other teachers both vertically and horizontally across curriculums to ensure that students are learning the basic skills and concepts needed to move to the next level, ensuring appropriate scaffolding occurs so that there are no missing links in the learning process in each subject area. This is where true leadership needs to evolve. Spillane stressed that leaders must move beyond the heroic plot of leading a school individually. He also pointed out that the distributed perspective of leadership moves beyond theory actions of individual leaders and considers leadership practice as the interactions of leaders, followers, and their situations. It is through clear successful interactions, understanding of curriculum and data-driven decision making that children will not fall behind and all will achieve at acceptable levels resulting in high achievement for all students throughout the school.

Dufour and Marzano (2011) stressed the importance of developing a sense of interdependence, collaboration, and collective effort among a staff. They stressed that because one of the most important variables to student outcomes is the classroom teacher then it only makes sense to develop a results-oriented collaborative culture focused on building the collective capacity of a staff. Teachers can plan together, teach developed lessons as planned in units of study, and then review student learning outcomes and compare their success in an effort to learn effective strategies from one another. Through this approach, teachers can respond to student outcomes accordingly and work together to respond to student needs.

When leaders embrace distributed leadership they can promote teacher leadership when

working in professional learning communities as the principal and teachers work together to build capacity among the staff. Fullan and Knight (2011) stressed that the role of school leadership, for principals and coaches, must be a systems level in order to get optimal and sustainable improvement. They also pointed out that effective coaches meet with teams of teachers planning lessons with classroom teachers, modeling lessons, observing instruction, facilitating meetings, reviewing student data, and leading the collaborative process of analyzing student work to make instructional decisions. When coaching is embraced in a building as a form of leadership it can lead to capacity building, team learning, learning across schools, and transparency of results and pedagogical practice. Coaching can be an important support to collaborative learning teams in schools that embrace such leadership support.

Developing Collaborative Learning Teams

Schmoker (2006) stressed that teachers need to work in teams to plan and develop agreed-upon learning outcomes to which all will teach. He also stressed the importance of learning communities and the fundamental concepts involved in the learning communities.

Dufour and Eaker (1998) stated,

> "Learning" suggests ongoing action and perpetual curiosity. In Chinese, the term "learning" is represented by two characters: the first means "to study," and the second means "to practice constantly." Many schools operate as though their personnel know everything they will ever need to know the day they enter the profession. The school that operates as a professional learning community recognizes that its members must engage in the ongoing study and constant practice that characterize an organization committed to continuous improvement. (p. xii)

Building-level leaders must understand the talents of each individual teacher in order to properly

place each teacher into effective collaborative teams within the school. Collins (2001) stressed the importance of getting the right people in the right seats on the bus. In order for school principals to understand where individual teachers will most effectively serve within the school, they must first understand each teacher with regard to specific skills and where future development is needed as well as individual talents so that each grade-level team is well-rounded and prepared to collaborate effectively to ensure continuous growth of students occur both collectively and individually.

Capacity building is taken to the next level when teachers begin observing other teachers to improve their practice based on discussions and discovered trends from collaborative discussions during team meetings. Hammerman (1997) stressed that shared leadership within the teacher inquiry groups may also prove beneficial. City (2011) referred to teachers observing other teachers as instructional rounds. She defined instructional rounds to be a disciplined way for educators to work together to improve instruction. Elements included in the process are observation, an improvement strategy, and a network of educators. When teachers are doing rounds, they focus on learning something themselves through the observation process. The purpose of the rounds is not about fixing individual teachers but rather to focus on understanding what is happening in classrooms. City stressed that when teachers participate in rounds, it leads to a shift of attention from the teacher to the students and the tasks in which they are engaged. The collective process of instructional rounds helps teams of teachers hold one another accountable, as pointed out by City. Working collaboratively in teams and embracing teacher leadership is a form of distributed leadership that can lead to increasing student achievement.

David (2009) reported that there is evidence that suggests when teachers collaborate, study data, and make informed instructional decisions from their students that this can lead to

growth in teacher knowledge, which in turn will lead to a change in practice. When studying student work in collaborative teams, protocols should be followed to ensure the group remains focused on the task at hand and that the process for gathering feedback involves all members of the group. Allen and Blythe (2004) suggested that protocols include

> structures that enable educators and, sometimes, others to look carefully and collaboratively at student and teacher work in order to learn from it. While different protocols vary in significant features, they all do two things: (1) provide a structure for conversation – a series of steps that a group follows in a fixed order, and (2) specify the roles different people in the group will play. (p. 9)

Blythe, Allen, and Powell (2008) stressed that when groups of teachers and administrators begin to look at work together and choose to use protocols, the following steps can be included to ensure successful collaboration:

1. Taking stock of current ways of looking at work.
2. Establishing goals and framing questions.
3. Choosing, adapting, or developing a protocol for looking collaboratively at student work.
4. Using the protocol over the course of several meetings.
5. Periodically reflecting on the goals and framing questions and revising how the group is using the protocol to address those goals and questions. (p. 9)

When teachers work collaboratively and make a change in practice based on what the data show, this can lead to increased student achievement both collectively and individually (David, 2009).

Teachers and principals must be involved in ongoing professional development to promote continuous improvement. Schmoker (2006) stressed that learning communities require

teachers to establish common, concise curricular standards and to teach them on similar schedules. School principals must understand effective teaching practice and they must participate in professional development along-side the teacher. Fullan (2010) pointed out the importance of principals participating in professional development. Effective principals participate alongside the teachers who are taking part in the professional development experience as learners. It is through this approach that they will be in the position of supporting the teachers by helping them figure out how to implement specific strategies in order to experience improvement across the school. Goleman (2000) referred to this as coaching, allowing leaders to develop people for the future. This important point is further supported when considering the work of Steil and Bommelje (2004) as they stressed the importance of listening leadership. Steil and Bommelje stressed the fact that not only does everyone have something to teach, but also that it is important to have leaders who are open to learn something new from others. Schmoker stressed the effects of collaborative work will be especially strong when leaders themselves work in the teams. Teachers and principals can work together to problem-solve strategies and help one another become more effective.

Another effective form of professional development that can transpire through collaborative learning teams includes participating in action research. Reeves (2010) stressed that action research has a positive effect on student achievement. Action research can also be an integral part of a learning community's practice. The model Reeves referred to includes the following components:

> Research question–This is an inquiry about a particular link between professional practices and student results. For example, how will interactive journals influence the writing performance of second-language students in a 7th grade math class?

> Student population–This is a description of the grade levels and special characteristics of the students participating in the project. Although action research makes no pretense of randomly selected subjects, it is nevertheless important for reviewers of research to understand the demographic and educational factors that might influence the research findings.
>
> Student achievement data–This includes data not only from year-end tests but also from formative assessments, classroom observations, and other instruments that allow for a systematic observation of changes in student achievement. It is most effective if there are several measurements throughout an action research project so that student absences on a single test day do not have a distorting effect on the results.
>
> Professional practices to be observed–This is the missing link in most action research projects and offers the greatest opportunities for teachers to bring more descriptive rigor to their reflections on professional practices. Terms such as "collaborative learning" or "differentiated instruction" have little meaning without clear specifications. The claim that "we used high-yield instructional strategies" is far less helpful than "we changed the interval of feedback from four times on 30-item tests to 12 times on 10-item tests and shortened the feedback loop from three days to the same day. (pp. 80-81)

It makes sense that if leaders believe they can learn from everybody, then they will be open to new ideas. If leaders put this belief into practice, then a culture can develop that embraces learning teams and continuous improvement across the school. Through a collaborative environment where teachers are learning new things along side one another, as well as from one another, the focus will remain on continuous development of effective teaching strategies and this will become an integral part of the culture within the school.

The Culture Within the Building

The culture within the building is a determining factor in the success of distributed leadership and more specifically teacher leadership and a collaborative approach to meeting the needs of students within a school both collectively and individually. Fullan (2001) warned that leading in a culture of change does not mean simply placing changed individuals into unchanged environments. If leaders of change are going to truly be successful then they need to instead focus on changing the context, helping create new settings that are conducive to learning and sharing. Bass (1990) stated that

> leadership in an organization is determined by the organization's legitimating principles and cultural norms and by the social structure within which it occurs. The organization's philosophy includes its assumptions, values, foci of attention, priorities, and goals and the techniques it promulgates to implement its efforts. Clearly its philosophy and culture overlap and reinforce each other in determining what is the right thing to do and what is important and good. (p. 571)

School culture is essential, and effective building-level leaders focus on developing a culture that is student-centered, focusing on continuous improvement and embracing a collaborative environment where teachers work together to meet the collective and individual needs of students.

Dufour and Eaker (1998) emphasized that "the most effective strategy for influencing and changing an organization's culture is simply to identify, articulate, model, promote, and protect shared values" (p. 134). Fullan (1993) stated,

> There are two basic reasons why educational reform is failing. One is that the problems are complex and intractable. Workable, powerful solutions are hard to conceive and even

> harder to put into practice. The other reason is that the strategies that are used do not focus on things that will really make a difference. They fail to address fundamental instructional reform and associated development of new collaborative cultures among educators. (p. 46)

School leaders must *walk the talk* if they are going to be successful at creating and maintaining a culture that focuses on students first and a collaborative approach to increasing student achievement.

Relationships must be developed to ensure a culture that embraces effective collaboration within a building. Reeves (2009) stated that

> culture is reflected in the behavior, attitudes, and beliefs of individuals and groups. The single greatest impediment to meaningful cultural change is the gap between what leaders say that they value and what leaders actually value. Staff members are not seduced by a leader's claim of "collaborative culture" when every meeting is a series of lectures, announcements, and warning. The assertion of a "creative culture" is contradicted by a practice of unbending uniformity. (p. 37)

Developing a collaborative culture that embraces creativity requires an appreciation for new knowledge. Fullan (2001) suggested that

> leaders in a culture of change realize that accessing tacit knowledge is crucial and that such access cannot be mandated. Effective leaders understand the value and role of knowledge creation; they make it a priority and set about establishing and reinforcing habits of knowledge exchange among organizational members. (p. 87)

Effective relationships promoting a collaborative environment are developed and massaged through a listening leadership approach. Steil and Bommelje (2004) defined purposes

for listening. They stressed the importance of the initial purposes for listening to develop respectful relationships within an organization. Purposes, as defined by Steil and Bommelje, include phatic, cathartic, information, and persuasion. The phatic purpose for listening involves small talk and is an opportunity for the speaker to experience an emotional release. Principals and teachers must engage in such opportunities with each other in order to get to the next levels of communication. Each level builds upon the next, so in order for leaders to effectively engage in the higher purposes of communication such as information and persuasion they must first begin at the initial levels to ensure respectful relationships are developed. It is through these respectful relationships that develop through the phatic and cathartic stages of communication that allow for the information stage and the persuasion stage to occur. Through the information stage of communication, detailed knowledge is shared and discussed and through the persuasion stage, beliefs are changed and or reinforced and therefore change can occur. Ensuring that effective communication is occurring at each level will provide opportunities for the principals and teachers to communicate with one another collectively and individually to ensure the conditions are set for healthy collaboration.

Teachers must understand, as pointed out by Buckingham and Coffman (1999), what principals expect of them. Effective principals will communicate clearly defined expectations and the responsibilities of the teachers to ensure teachers are following the steps expected of them in order to complete their instructional duties. Park and Datnow (2009) stressed that it is critical that a culture of continuous improvement be developed to promote the practice of data-driven decision-making in schools. There is a delicate balance that is required through district-level support and support from school principals that ensure data-driven decisions within the context of individual classrooms. The first step to ensure the use of data is to communicate the

expectations of such practice.

Roby (2011) suggested that culture develops through the course of social interactions. Buckingham and Coffman (1999) stressed the importance of the ability for great managers to focus on performance and they refer to this as performance management. Buckingham and Coffman also pointed out that great managers follow a routine and they meet regularly with the employees they manage. Effective principals can model ongoing and data-driven development by meeting individually with teachers regularly throughout the year. They should meet with teachers early in the year each year as well as three to four times additionally throughout the school year. The initial meeting might include spending 10 to 15 minutes discussing student data pertaining to the end of year results for the previous year. Together, the teacher and principal may choose to look at individual student's growth in all curricular areas and the student growth of the entire class in all curricular areas. Progress toward the previous year's goals may also be discussed in the beginning of the year meeting. Additional time may be spent discussing the teacher's professional goals for the current school year and a process for measuring the results toward attaining the goals should be discussed as well. Professional goals need to be student-centered or results-oriented. The goals should also align nicely with the school improvement plan. Three to four additional meetings should be scheduled throughout the remainder the year. Again, during these remaining meetings the first minutes should be spent reviewing current progress toward the current goals and the final portion of the meeting should focus on the future and include ways in which the teacher will measure success toward attaining the current goals.

Frequent data-driven meetings that focus on continuous improvement will promote a culture of ongoing professional development and growth. Hallinger and Leithwood (1996) stressed that principals are an independent variable influencing the school's culture.

Additionally, school culture influences the leadership of principals. Moynihan, Pandey, and Wright (2011) stated that leaders must set the table for success and must foster the right organizational conditions including goal clarity. By scheduling regular meetings with each teacher, this will ensure that principals are providing adequate support to all teachers within the building and it also provides principals an opportunity to model regular meetings focusing on data-driven decisions that ensure continuous improvement.

Such modeling of principals regarding collaborative goal setting to promote continuous improvement is an important component to developing a culture that supports distributed leadership and collaborative learning teams. Danielson (2006) stressed that school culture overall sets the tone for teacher leadership. Not only does it affect how the school operates but also, it affects the extent to how it will achieve positive results for children. In order for principals to ensure a culture that promotes a team-based approach to meeting the needs of students, the culture must be developed through principals meeting and working alongside teacher teams as well as with teachers individually promoting respectful support and team-player actions along the way.

Hirsch and Emerick (2006) found that

> the impact on student and learning conditions on student achievement provides compelling evidence to support the notion that teacher working conditions are student learning conditions. The analysis specifically point to the need to empower teachers in selecting teaching strategies, consistently enforcing codes for student conduct, and recognizing teachers as educational experts. (p. vii)

Hirsh and Emerick (2006) also found that

> teachers and administrators view working conditions differently. There are considerable

> gaps between the perceptions of teachers and administrators regarding the degree to which school leadership addresses teacher concerns. While some discrepancies might be expected between administrators and teachers on a measure of leadership effectiveness, the degree of these discrepancies is startling and must be taken into consideration for any working conditions reforms to be successful. (pp. vii-viii)

As Steil and Bommelje (2004) stressed, optimal leadership is accomplished through effective listening. In order to be prepared for the day-to-day challenges within a school, principals must be effective listening leaders and teachers must find principals to be approachable. Danielson (2006) stressed that "given the nature of culture and the notoriously slow pace with which cultures change, this is not a short-term effort; it requires commitment over an extended period of time" (p. 57). Valentine (2006) stated that

> as important as school culture is to school improvement, one must not overlook the fact that shaping a school's culture is a complex process . . . a mixture of leadership, relationships, trust, student focus, values, beliefs, etc. developed and nurtured over months and years. (p. 5)

Continually focusing on respectful relationships and clearly communicating and discussing school goals and common beliefs within the organization in collaborative learning communities, principals and teachers can work together to develop and maintain a collaborative school culture where students are thriving and experiencing academic gains.

Educational leadership requires individuals who are both effective managers and informed instructional leaders. Effective educational leaders truly understand the art of teaching, embrace distributed leadership (specifically teacher leadership), promote a collaborative team-based approach to collaborative learning teams, and provide continuous attention to developing

and maintaining a collaborative school culture. Effective educational leadership includes a collaborative approach to serving the school community. Spillane (2006) stressed that "the distributed perspective urges us to observe how followers' participation in a leadership routine contributes to defining leadership practice" (p. 92). Embracing such an approach to leadership ensures that educational leaders remain abreast of changes and development in the profession collectively and therefore strengthens and enhances the knowledge and effectiveness of the organization.

Successful principals are able to communicate well with multiple publics including teachers, students, parents, community members, and central office-level leaders. They are innovative thinkers and able to communicate a vision to others. Collaboration is an integral part of their leading, ensuring the many talents within the building are fully utilized to meet the needs of all students. David (2009) suggested that teachers can make better use of data when they work collaboratively in teams. Collaboration around data and discussions pertaining to effective strategies can lead to increased student learning.

Effective principals understand that the human resources within the building are the key factor to student success. Principals that truly want to promote a school culture, where student learning is the focus and continuous learning of all stakeholders within the organization is valued, will lead by example. Additionally, they will focus on effective ways to distribute power. Bass (1990) stressed that

> power sharing with all members of a group does not necessarily mean increased initiative by and freedom for members. On the contrary, powerful groups can constrain and influence their individual members more strongly than can any individual leader with power. (p. 260)

Distributing leadership through collaborative learning teams ensures that teachers are working together to meet the needs of all students both collectively and individually. Dufour and Marzano (2011) suggested that

> creating the conditions to help others succeed is one of the highest duties of a leader. If school and district leaders are to create the conditions that help more students succeed at learning at higher levels, they must build the capacity of educators to function as members of high-performing collaborative teams. (p. 87)

Through the collaborative approach to study student and teacher work each individual teacher benefits from the wealth of knowledge, skill, and talent among the staff. Through this process the school can work together with the intent of ensuring continuous and adequate support for every student leading to greater achievement gains.

Lytle (2012) suggested that improving achievement requires school leaders to do the following:

- Establish and maintain a safe, orderly school climate where things operate smoothly;
- Focus on parent and community support and engagement;
- Provide instructional guidance, including an aligned and enriched curriculum, instructional guidance and academic press;
- Establish and build trust with teachers, students, parents, and community;
- Read, interpret, and respect context (a school's demographic, historical, political, and cultural characteristics);
- Attend to teacher hiring, support, assignment, and retention;
- Redesign or structure the school organization so that priorities are consistently addressed;

- Distribute leadership and approach leadership as a collective responsibility for teachers and parents;
- Encourage the use of data and research;
- Develop people; and
- Allocate resources (people, time, money, space) in relationship to priorities. (p. 57)

A Brief History of Testing and Indiana Accountability

Ravitch (2002) stated that although testing students has been a staple in American public schools since the 19th century, accountability to the degree of holding not only students, but teachers, schools, and school districts accountable for student performance is a more contemporary invention. In the early 19th century schools used tests simply to determine who could and could not handle the work before moving onto high school. Ravitch pointed out that during that time period, this meant that less than one of every 10 adolescents moved on to high school. In the early years of the 20th century, psychologist Edward L. Thorndike of Teachers College, Columbia University, began pushing for testing and using data to demonstrate that education could become an exact science. Although Thorndike's interest was not for purposes of accountability, his motivation for his work was to strengthen the field of education. Thorndike's work in the area of testing was an integral part of the progressive education movement (Ravitch 2002).

The launch of Sputnik led to the most significant consequences in American public education. When Russia launched a satellite into space before the United States, a consequence of this event was the focus on raising educational standards in the United States (Urban & Wagoner, 2009). Several books and articles were published that claimed there was a terrible educational deficiency in the reading, writing, and mathematical skills of American students and

that the Russian students were superior in knowledge to American students. In addition to the focus on raising educational standards, the use of standardized tests was seen as an effective way to measure whether the standards were being met in American schools.

In 1966 the Coleman report by sociologist James Coleman further emphasized the push for accountability in schools. The Coleman report focused on examining differences in achievement scores and outcomes. The Coleman study was conducted in response to provisions of the Civil Rights Act of 1964. The focus was on equal educational opportunities to children of color, religion, and national origin (Urban & Wagoner, 2009). Coleman was chosen to lead a research team to report underlying issues relating social class to minority and majority students' educational achievement. In Coleman's work he found that differences in school resources were only mildly related to differences in educational achievement and noted that achievement differences were strongly related to the educational backgrounds of a student's peer group. Coleman's research led to additional questions. Coleman's work led to the questions of links among economic class, race, and school achievement (Urban & Wagoner, 2009).

Accountability through high stakes tests continued to evolve in the 1970s through the establishment and development of the National Assessment of Educational Progress (NAEP). Bracey (2009) stated that the intent of the assessment was to solely be descriptive and provide an indicator of the nation's general education health. It was intended to measure what students did and did not know to further guide curriculum development and emphasis. Although results were not provided on individual students, classrooms, or schools, it did serve as a national report pertaining to student achievement. Results are used to assess student progress across the country and develop ways to improve America's educational system. By 1988, Congress amended the

NAEP law to permit state-by-state comparisons and NAEP became as much prescriptive as its original intent of being descriptive (Bracey, 2009).

Accountability and Public Law 221

The push for standards and a system for accountability in Indiana began in 1987 as a result of the educational reform efforts initiated by Governor Robert D. Orr and H. Dean Evans, State Superintendent of Public Instruction (Hiller, DeTommaso, & Plucker, 2012). Through this initiative, Indiana Statewide Testing for Educational Progress (ISTEP) was implemented. The reform efforts continued through the 1990s and in 1999 became Public Law 146 and Public Law 221. Through Public Law 146 came the requirement for the Indiana Department of Education to develop and adopt state standards for each grade level, kindergarten through Grade 12, in subjects English, mathematics, social studies, and science. The standards were measured through the ISTEP.

Public Law 221 required a performance-based system of accreditation and accountability. Financial incentives were developed to promote and reward high-performing schools. In 2001, all rules were in place and categories were established to allow the Indiana Department of Education to begin collecting data for the performance system that would allow schools to be placed in specific performance categories that included exemplary progress, commendable progress, academic progress, academic watch, and academic probation (Hiller et al., 2012). The new system also required the development of school improvement plans focusing on development of goals as determined by assessment results (ISTEP) and a plan for reaching the goals over a three-year period. There were financial awards and incentives included in the law as well.

In 2010, Public Law 221 was changed to implement a grading system on schools requiring an A-F letter grade system. The plan called for grades to be determined based on student performance and were to be measured through the annually scheduled ISTEP administered to students in Grades 3 through 10. By January 2011, the Indiana Department of Education adopted a plan for revising Indiana's accountability framework so that schools were placed in accountability categories by letter grades A-F. The accountability system utilizing grades A-F uses a growth model system to determine such letter grades.

Growth Model for Determining School Letter Grades for Accountability

The Indiana Department of Education began to roll out the plan for using the Indiana growth model as the tool for accountability to evaluate program or school effectiveness. The Indiana growth model was based upon the Colorado growth model and is a statistical way to determine how much change in ISTEP+ scores is equal to one year's growth (Indiana Department of Education, 2012). The Indiana growth model is utilized to help understand the progress students and is based on where each individual student scores initially academically and then progresses from one year to the next. The focus is on ensuring students will achieve one year of growth each year no matter where they start. The growth model system allows for parents, teachers, and administrators to see progress made by a student from one year to the next each academic year. The Indiana growth model takes each student's ISTEP+ score in the first year and each student within the state who achieved the exact score is placed in the same group for each of two subjects, math and English/language arts. From one year to the next students are compared to other students in the group and growth is reported in percentile. Students are reported both at the school level and the corporation level and they fall into one of four categories—high achievement/high growth, high achievement/low growth, low

achievement/high growth, or low achievement/low growth. Based on the percentage of students falling in specific categories, this information is used as a component of a school's accountability grade as determined in the A-F accountability.

Value-added models are also becoming popular in determining teacher effectiveness as a component of the teacher evaluation process. Isenberg and Hock (2011) described the basic approach of a value-added model, which is to predict test score performance that each student would obtain with the average teacher and then compare that score to the average performance of a given teacher's students to the average of the predicted scores. Value-added models are now used in several states including Tennessee, Delaware, Colorado, Ohio, and Pennsylvania. Braun (2005) stated the value-added models revealed serious concerns. Such concerns included the absence of randomization. Braun stated that causal interpretations can be misleading when there is not randomization. Classroom placement of students and student assignment to teachers is far from random and teachers may select the school and classroom where they teach. Given such factors, along with the consideration of parental support, motivation, study habits, and other relevant characteristics may present issues with whether or not a given classroom is truly representative of the general population. Braun stated that although there are flaws in value-added models, there are positive outcomes to such interest and implementation efforts as it has forced conversations and areas of focus to center on the quality of teachers being measured on increasing student learning as the goal of teaching.

Bracey (2009) stressed that school quality tests need to be sensitive to instruction. Although using Indiana growth model data to measure individual student growth and value-added models focus on the teacher impact with regard to student achievement, it is important for teachers and schools to utilize multiple measures to determine student mastery of key concepts.

Brookhart (2009) stressed that multiple measures include (a) measures of different constructs, (b) different measures of the same construct, and (c) multiple opportunities to pass or show evidence of mastery. Additionally, it is important to utilize formative assessments to make instructional decisions throughout a given lesson, unit, or course. Gronlund (2006) stressed the main purpose of classroom assessment is to improve student achievement. Additionally, effective assessment requires a clear understanding of the intended learning outcomes, a variety of assessment procedures that are relevant to the instruction and formative, and timely feedback provided to students with response to additional instructional needs.

Teacher Collaboration, Collaborative Leadership, and Student Achievement

Research has been conducted to determine if collaborative leadership or teacher collaboration has an effect on student achievement. Fullan (2010) stressed that focused collaboration produces powerful results on an ongoing basis. He also stated that there is a link between a principal's action and student learning. The degree to which the principal participates as a learner alongside teachers can lead to increased student learning.

Dufour and Eaker (1998) underlined professional learning communities as a promising strategy to sustain substantive school improvement and that professional learning communities serve as an avenue to further develop teachers. Professional learning communities can support Fullan's (2010) assertion that continuous learning equals continuous capacity building within the school. The professional learning community model "requires school staff to focus on learning rather than teaching, work collaboratively on matters related to learning, and hold itself accountable for the kind of results that fuel continual improvement" (Dufour, 2005, p. 42). When educators work together to focus on student learning, their collective efforts provide support to each member of the professional learning team.

Results-oriented collaboration involves reflection on teaching practices and effective strategies. Through such collaborative efforts, teachers utilize assessment data to make informed instructional decisions at the beginning of a lesson or unit, as well as in the middle of a lesson or unit, rather than simply at the end of the lesson or unit for the purpose of measuring if students have mastered the content. Stiggins (2005) wrote,

> Rather than relying on assessment as the source of information to decide who is rewarded and punished, we use assessment as a road map from start to ultimate success. Success at learning becomes its own reward, promoting confidence and persistence. (p. 77)

Through a results-oriented approach, Schmoker (2006) emphasized the importance of establishing a common concise set of essential curricular standards. Teaching on a roughly common schedule is also important so that as teachers make data-driven decisions they can collaborate on which strategies seem to get the most results pertaining to higher student achievement.

In addition to the curriculum and instruction, Dufour and Eaker (1998) emphasized the importance of common assessments and developing a culture where teachers work together to study the results of the common assessments while reflecting on the teaching practices that led to specific achievement results. Dufour et al. (2005) posed the question, "Will educators be able to move from the 'if only' culture and into the 'can do' culture" (p. 25)? When teachers are truly transparent, with regard to their teaching, and work collaboratively while studying the data, each teacher within the group is able to refine specific teaching skills and develop professionally. Throughout the reflection of practices and strategies resulting in specific achievement results as measured by such common assessments, Fullan (2010) stressed that collaborative competition is important as well as teachers focus on a bigger cause. Instructional successes can be identified

through examination of data and identifying trends and being attentive to the school trends, grade level trends, and individual classroom trends. Dufour et al. (2005) wrote that "educators within a PLC are willing to acknowledge that many of the factors that result in improved student learning do lie within their sphere of influence" (p. 25).

Research conducted by Miller, Goddard, Goddard, Larsen, and Jacob (2010) found a significant direct effect of instructional leadership on teacher collaboration and a direct effect of collaboration on student achievement. Based on the research, their findings suggested that in schools where instructional leadership was higher, teachers tended to spend more time collaborating on instruction. The indirect effect was significant as well, as it pertained to student achievement. The research suggested that instructional leadership is important to understanding both teacher collaboration and its impact on student learning. The authors of this research also suggested focus on replicating and extending these findings with different populations of schools, teachers, and students, is warranted. The implications for practitioners also emphasized the importance of leaders focusing on instruction in their schools and supporting teachers' leadership and their collaborative practices. Fisher, Frey, and Pumpian (2012) emphasized the importance of a culture committed to student learning must be equally committed to teacher development. Increased student learning cannot be sustained if efforts are not made in nurturing the adults as well. A major barrier to teacher growth is that many teachers view professional development negatively. Empowering teachers to make decisions pertaining to professional development may alleviate the negative connotations that some teachers may feel. Collaborative efforts pertaining to continuous development of effective practices and strategies can be accomplished through professional learning communities.

Goddard, Goddard, and Tschannen-Moran (2007) conducted research investigating the extent to which teachers' collaborative school improvement practices are related to student achievement. The purpose of the study was to review literature and test the relationship between teacher collaboration for school improvement and student achievement. The study involved a sample of 47 elementary schools with 452 teachers. The findings indicated that fourth grade students attending schools characterized by higher levels of teacher collaboration for school achievement have higher achievement in mathematics and reading. The authors suggested that based on these findings teacher collaboration may improve schools' ability to more positively impact student achievement. Findings in the study suggested that the relationship between teacher collaboration for instructional improvement and student achievement is likely indirect. An important implication was that through teacher collaboration, teachers learn how to improve their instructional practice.

Research supports the assertion that teacher collaboration can lead to increased student achievement. Principals must also work alongside the teachers as teams work in professional learning communities (PLCs) in collaborative efforts to grow professionally and develop in ways that increase the ability to meet students' needs. "Principals in PLCs are called upon to regard themselves as leaders of leaders rather than leaders of followers, and broadening teacher leadership becomes one of their priorities" (Dufour et al., 2005, p. 23).

Summary

Through a distributed leadership approach where principals and teachers work together to ensure attention is given to the many facets that ensure stakeholders' needs are met, school achievement can be impacted positively. Additionally, school leaders must be attuned to the culture within elementary buildings and middle school buildings to ensure a culture is developed

and embraced that will ensure continuous growth in student achievement as the collective and individual needs of students are addressed. Valentine (2006) stated that

> the essential questions become (a) "Does a leader and a school work first to build a collaborative culture and then student success evolves?" or (b) "Does a process of collaborative work focusing on student success produce both a collaborative culture and student success?" We believe the latter produces, over time, a lasting, caring, collaborative culture and the foundation for continuous student-centered success. The more we collaborate together to study and problem-solve our issues that impact student success, the more we build the trust and relationships that produce a collaborative culture. (p. 5)

In order to create and maintain such an environment, school leaders and teachers must effectively communicate and interact throughout the leadership/follower interactions that occur throughout the process of teachers collaborating, learning, and focusing on continuous improvement for all learners.

CHAPTER 3

METHODOLOGY

The purpose of this quantitative study was to determine whether collaborative leadership and teacher collaboration predict student achievement. Specifically, the study sought to discover if there is a strong relationship between collaborative leadership and student achievement and if there is a strong relationship between teacher collaboration and student achievement.

This study utilized the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey provides information pertaining to shared values/beliefs in the school. The factors measure specific aspects of a school's collaborative culture. The measured factors were

1. Collaborative Leadership: Measures the degree to which school leaders establish and maintain collaborative relationships with school staff.
2. Teacher Collaboration: Measures the degree to which teachers engage in constructive dialogue that furthers the educational vision of the school.
3. Professional Development: Measures the degree to which teachers value continuous personal development and school-wide improvement.
4. Collegial Support: Measures the degree to which teachers work together effectively.
5. Unity of Purpose: Measures the degree to which teachers work toward a common mission for the school.

6. Learning Partnership: Measures the degree to which teachers, parents, and students work together for the common good of the student. (Gruenert & Valentine, 1998)

The instrument was administered to teachers and principals in elementary, and middle schools throughout Indiana electronically via Survey Monkey.

Research Questions

The research questions for the study were

1. Does collaborative leadership predict student English/language arts achievement?
2. Does collaborative leadership predict student math achievement?
3. Does teacher collaboration predict student English/language arts achievement?
4. Does teacher collaboration predict student math achievement?

Null Hypotheses

The following represented the null hypotheses for the study:

$H_0$1. Collaborative leadership does not predict student English/language arts achievement.

$H_0$2. Collaborative leadership does not predict student math achievement.

$H_0$3. Teacher collaboration does not predict student English/language arts achievement.

$H_0$4. Teacher collaboration does not predict student math achievement.

Description of the Sample

For the purpose of this study, an elementary school is defined as Grades K-6 or any combination of grades between K-6. Middle school is defined as Grades 6, 7, and 8 or any combination between Grades 6-8. All Indiana public elementary and middle school principals and teachers working in buildings housing students who were participating in ISTEP+ testing were invited to participate in the study regardless of age, gender, race, or years of experience of

the principal or teachers. The goal was to have at least 200 participants in the study. All of these schools were schools in Indiana. Within each participating school, the building principal and teachers were invited to participate.

Data Sources

This study is a quantitative study through the use of a survey developed by Gruenert and Valentine (1998). Data were analyzed using the Statistical Package for the Social Sciences (SPSS) to code and tabulate scores collected from the survey and provide summarized values where applicable including the median, mean, central tendency, variance, and standard deviation. Effort was made to ensure the principal and teachers from specific schools were linked together appropriately. A teacher average score per factor was linked to his or her principal. An Excel database was used from the Indiana Department of Education listing school name, emails, and ISTEP results.

Data Collection

Letters to superintendents (Appendix C) and association presidents (Appendix D) per district was sent informing them that a survey would be distributed throughout the district. The letter requested that if the superintendent had a problem with the distribution of the survey to please contact me indicating the preference not to have the survey distributed in the district. For those schools where the superintendent had not indicated a request that the survey not be distributed, a cover letter (Appendix E) was included with each survey. The purpose of the letter was to introduce the purpose of the survey as well as provide instructions for completing the survey. The cover letter also provided assurance of confidentiality and anonymity for all participants. On March 1, 2013, the institutional review board (IRB) determined this study was approved and received expedited review.

1. All public elementary schools and public middle schools in Indiana having one or more grade levels administering ISTEP+ were invited to participate in the study.
2. One administrator of each school and all teachers were emailed a request to participate by completing the survey.
3. The survey asked administrators and teachers to indicate which school and district they were from, whether they were administrators or teachers, how long they had been at that school, and whether or not they chose to meet collaboratively if collaborative meetings were not a requirement. Results of the survey were kept on a laptop computer that was password protected. Teacher names were not requested to be included on the survey. The data source was destroyed upon completion of the research.
4. A letter of request was emailed to each principal and five teachers along with the survey, requesting the participant complete a survey (Appendix F).

Method of Analysis

The statistical design for Hypothesis 1 provided one criterion variable and one predictor variable. The criterion variable was student achievement, English/language arts ISTEP+ results. The predictor variable was collaborative leadership. The statistical design for Hypothesis 2 provided one criterion variable and one predictor variable. The criterion variable was student achievement, math ISTEP+ results. The predictor variable was collaborative leadership. The statistical design for Hypothesis 3 provided one criterion variable and one predictor variable. The criterion variable was student achievement, English/language arts ISTEP+ results. The predictor variable was teacher collaboration. The statistical design for Hypothesis 4 provided

one criterion variable and one predictor variable. The criterion variable was student achievement, math ISTEP+ results. The predictor variable was teacher collaboration.

The procedure for testing the Null Hypotheses 1 through 4 resulted in linear regression tests being run. For Null Hypotheses 1 and 2, the predictor variable was collaborative leadership. The criterion variable for Null Hypothesis 1 was English/language arts achievement and the criterion variable for Null Hypothesis 2 was math achievement. For Null Hypotheses 3 and 4 the predictor variable was teacher collaboration. The criterion variable for Null Hypothesis 3 was English/language arts achievement and the criterion variable for Null Hypothesis 4 was math achievement. Simple linear regression was run to see if strong linear relationships existed that allow one to predict student achievement using collaborative leadership or teacher collaboration in the areas of English/language arts or math.

If a significant relationship existed, I looked at the unstandardized partial regression coefficient. The predicted value of the criterion variable was expected to rise or decrease based on a one unit increase in the predictor variable, given the predictor variable was significant. Through this process, I was able to determine if collaborative leadership serves as a predictor in English/language arts achievement and/or math achievement. I was also able to determine if teacher collaboration serves as a predictor in English/language arts achievement or math achievement.

Summary

The purpose of this study was to examine whether or not there is a strong relationship between collaborative leadership efforts and student achievement and teacher collaboration efforts and student achievement. Specifically, the study determined if principal and teachers' collaborative leadership efforts and teacher collaboration efforts can serve as predictors to

student achievement in a building. This study used a survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey provides information pertaining to shared values and beliefs in the school. The factors measured specific aspects of a school's collaborative culture. This study provided quantitative data for administrators and teachers to help focus their efforts on improvement strategies that positively impact student achievement.

CHAPTER 4

FINDINGS OF THE STUDY

Research Questions

The research questions investigated for this study included the following:

1. Does collaborative leadership predict student English/language arts achievement?
2. Does collaborative leadership predict student math achievement?
3. Does teacher collaboration predict student English/language arts achievement?
4. Does teacher collaboration predict student math achievement?

Presentation of the Study Sample

For this study, data were gathered from the Indiana Department of Education. Indiana school corporation names were gathered as well as the school names within each corporation. Elementary and middle school principal and teacher email addresses were accessed via school corporation websites and individual school websites. Growth model data were requested by contacting the Indiana Department of Education and a spreadsheet was requested for growth model data for English/language arts and math for elementary and middle schools. An average growth model average for two years (2010 and 2011 school years) was used for both English/language arts and math. Teachers and principals were sent a survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998) with a request to complete the survey because they were being invited to participate in a research

project pertaining to collaborative leadership and teacher collaboration. Included in the survey in addition to questions related to collaborative leadership and teacher collaboration were questions to collect information with regard to school name, district name, current position held, number of years in current position, and whether or not participants would choose to collaborate if collaboration were not a requirement. It was important to know the school name and the district name so that respondents could be matched to the respective buildings. It was also important to match the growth model data to the schools based on the participants responses pertaining to collaborative leadership and teacher leadership. The remaining additional questions including current position held, number of years in current position, and whether or not participants would choose to collaborate if collaboration were not a requirement were asked to better understand and describe the sample group as is described in the following descriptive paragraphs.

Descriptive Data

Building Type of Participants

Elementary and middle school level principals and teachers who were invited to participate in the research project were asked to participate by completing a survey. A total of 342 respondents completed the cultural survey, which was developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). Respondents from building type included 245 elementary (71.6%) and 97 middle (28.4%).

Position Type of Participants

Principals and teachers from each building were asked to complete the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). There were 83 principals (24.3%) who completed the survey, and 257 teachers (75.1%). Two respondents did not answer the questions necessary for the research project (0.6%).

Desire to Collaborate

Respondents were asked if they would meet collaboratively if they were not required to meet collaboratively. Of the 339 respondents answering the question, 334 participants (97.7%) responded they would meet collaboratively even if it was not a requirement; five respondents (1.5%) indicated that they would not meet collaboratively with colleagues unless required. Of the participants completing the survey, three participants did not answer the question (0.9%).

Whole Sample

For each of the 342 respondents, growth model data were gathered for their schools in the areas of English/language arts and math. Respondents were asked to indicate their current positions and how long they had been working in their current positions. Respondents were asked to complete a survey that used a five-point Likert scale to assess their level of involvement in the school related to both collaborative leadership and teacher collaboration. Examination of the range of scores for growth model data for English/language arts showed a 46.25 range with the minimum score of 27.50 and a maximum score of 73.75. The mean score for English/language arts was 49.94. The range for math was a 56-point range with the minimum score of 19.00 and a maximum score of 75.00. The mean score for math was 53.29. There was a greater range in math scores than English/language arts scores. The range was 9.75. When considering years of experience in current position there was a 44-year range with the least years of experience being one year and the most years of experience being 45 years. The mean years of experience in the current position was 12.54 years. Participants responded to statements pertaining to collaborative leadership and teacher collaboration and received a score for each using a five-point Likert scale. Teachers could respond to specific statements choosing numbers 1 through 5 with each number representing the following: 1 = *strongly disagree*, 2 = *disagree*, 3

= *undecided*, 4 = *agree*, and 5 = *strongly agree*. The lowest score for collaborative leadership and teacher collaboration was one and the highest score for collaborative leadership and teacher collaboration was 5. The overall mean score for collaborative leadership was 3.77, and the overall mean score for teacher collaboration was 3.22.

Position in Elementary Building

Both principals and teachers from elementary buildings were asked to complete the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). A total of 148 more participants responded to the survey from elementary buildings than middle school buildings. Two respondents (0.8%) did not answer the questions necessary for the research project. The elementary respondents based on position type appears in Table 3.

Table 3

Sample Descriptive Data (Position Type of Participants in Elementary Building)

Position	*N*	Percent
Principal	62	25.3
Teacher	181	73.9
Incomplete Survey	2	0.8
Total	245	100.0

Position in Middle School Building

Both principals and teachers from middle school buildings were asked to complete the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The middle school respondents based on position type is

presented in Table 4.

Table 4

Sample Descriptive Data (Position Type of Participants in Middle School Building)

Position	*N*	Percent
Principal	21	21.6
Teacher	76	78.4
Total	97	100.0

Building Type Sample Elementary

For each of the 245 respondents at the elementary buildings, growth model data were gathered for their schools in the areas of English/language arts and math. Respondents were asked to indicate their current positions and how long they had been working in their current position. Respondents completed a survey that used a five-point Likert scale to assess their level of involvement in the school related to both collaborative leadership and teacher collaboration. Examination of the range of scores for growth model data for English/language arts showed a 37.75 range with the minimum score of 36.00 and a maximum score of 73.75. The mean growth model score for English/language arts was 50.62 and was similar to that of the whole sample. The range for math was a 40-point range with the minimum score of 32.50 and a maximum score of 72.50. The mean growth model score for math was 52.34. The mean growth model score for math was 3.66 points less than the whole sample. Math growth model scores had a greater range than English/language arts growth model scores. The range was 2.25. This range was less at the elementary level than the entire sample as a whole. When considering years of experience in current position, there was a 44-point range with the least experience being one year and the

most years of experience being 45 years. Participants were asked questions pertaining to collaborative leadership and teacher collaboration and received a score for each using a five-point Likert scale. There was a 3.55 point range for the collaborative leadership score and a 3.83 range for the teacher collaboration score. The mean score for collaborative leadership was 3.78, a mean score similar to the entire sample. The lowest score for collaborative leadership was 1.45 and the highest score for collaborative leadership was five. The lowest score for teacher collaboration was 1.17 and the highest score for teacher collaboration was five. The mean score for teacher collaboration at the elementary level was 3.29 and was 0.07 point more than the whole sample.

Building Type Sample Middle School

For each of the 97 respondents at the middle school buildings, growth model data were gathered for their school in the areas of English/language arts and math. Respondents were asked to indicate their current position and how long they had been working in their current position. Examination of the range of scores for growth model data for English/language arts showed a 34.75 range with the minimum score of 27.50 and a maximum score of 62.25. The mean growth model score for English/language arts was 48.24. The mean growth model score for English/language arts at the middle school was 1.7 points less than the mean score of the sample as a whole. The range for math was a 56-point range with the minimum score of 19.00 and a maximum score of 75.00. The mean growth model score for math was 55.66. The mean growth model score for math at the middle school was 2.37 points greater than the mean growth model score of the sample as a whole. When considering years of experience in current position, there was a 38-year range with the least years of experience being one year and the most years of experience being 39 years. The range in experience was less by five years compared to the 44

year range found in the whole sample. The mean for years of experience at the middle school level was 11.14 and was 1.4 years less than the whole sample. Participants were asked questions pertaining to collaborative leadership and teacher collaboration and received a score for each using a five-point Likert scale. There was a 3.91 point range for the collaborative leadership score and a 4.0 range for the teacher collaboration score. The lowest score for collaborative leadership was 1.00 and the highest score for collaborative leadership was 4.91. The lowest score for teacher collaboration was 1.00 and the highest score for teacher collaboration was 5.00. The mean score at the middle school for collaborative leadership was 3.73 and was similar to the whole sample. The mean score for teacher collaboration was 3.06 and was .16 less than the whole sample.

Position Type Sample Principal

For each of the 83 principal respondents, growth model data were gathered for their schools in the areas of English/language arts and math. Examination of the range of scores for growth model data for English/language arts showed a 46.25 range with the minimum score of 27.50 and a maximum score of 73.75. The mean growth model score for English/language arts was 50.04. The mean growth model score for English/language arts for principal respondents was similar to the mean score of the sample as a whole. The range for math was a 54.50 point range with the minimum score of 19.00 and a maximum score of 73.50. The mean growth model score for math was 52.94. The mean growth model score for math principal respondents was 3.06 points less than the mean growth model math score of the sample as a whole. When considering years of experience in current position there was a 42 year range with the least years of experience being one year and the most years of experience being 43 years. The range in experience was similar to the 44 year range found in the whole group sample. The mean for

years of experience in the principal group was 8.93 and was 3.62 years less than the whole group sample. When comparing collaborative leadership and teacher collaboration to the whole group sample, there was a 1.73 point range for the collaborative leadership score and a 2.83 range for the teacher collaboration score. The lowest score for collaborative leadership was 3.27 and the highest score for collaborative leadership was 5.0. The lowest score for teacher collaboration was 2.00 and the highest score for teacher collaboration was 4.83. The mean score for principal respondents for collaborative leadership was 4.82 and was 1.05 points higher on the Likert scale when compared to the whole group sample. Additionally, the lowest score for principal respondents of 3.27 was much higher than the lowest score in the whole group sample of 1.00. The mean score for teacher collaboration was 4.27 and was 1.05 points higher on the Likert scale than the whole group sample.

Position Type Sample Teacher

For each of the 257 respondents who were teachers, growth model data were gathered for their school in the areas of English/language arts and math. Examination of the range of scores for growth model data for English/language arts showed a 30.50 range with the minimum score of 35.75 and a maximum score of 66.25. The mean growth model score for English/language arts was 49.91. The mean growth model score for English/language arts for teacher respondents was similar to the mean score of the sample as a whole. The range for math was a 50.25 point range with the minimum score of 24.75 and a maximum score of 75.00. The mean growth model score for math was 53.45. The mean growth model score for math for teacher respondents was 2.55 points less than the mean of the growth model score for the sample as a whole. When considering years of experience in current position there was a 44-year range with the least years of experience being one year and the most years of experience being 45 years. The range in

experience was similar to the 44-year range found in the whole group sample. The mean for years of experience in the teacher group was 13.65 and was 1.11 years greater than the whole group sample. When comparing collaborative leadership and teacher collaboration to the whole group sample, there was a 4.00 point range for the collaborative leadership score and a 4.00 range for the teacher collaboration score. The mean score for teacher respondents for collaborative leadership was 3.60 and was 0.17 points less on the Likert scale when compared to the whole group sample. The mean score for teacher collaboration was 3.08 and was 0.17 points less on the Likert scale than the whole group sample. Data pertaining to teacher respondents is contained in Table 8.

Hypotheses Testing

The following hypotheses were tested.

$H_0$1. Collaborative leadership does not predict student English/language arts achievement.

$H_0$2. Collaborative leadership does not predict student math achievement.

$H_0$3. Teacher collaboration does not predict student English/language arts achievement.

$H_0$4. Teacher collaboration does not predict student math achievement.

English/Language Arts Performance Based on Collaborative Leadership

$H_0$1. Collaborative leadership does not predict student English/language arts achievement. The first null hypothesis was examined to determine whether collaborative leadership can serve as a predictor of students English/language arts achievement. This null hypothesis was tested using linear regression.

The assumption of independence of error was tested using the Durbin-Watson statistic to determine whether the score was close to 2. The Durbin-Watson score was 1.824. There was no

violation of the assumption of independence of error with a Durbin-Watson of approximately 2. The assumption of linearity sought to determine if the relationship was linear in nature. It was examined by looking at the plot of standardized residual against the standardized predicted. It was evident there was a linear relationship. There were no violations with the assumption of normality as all Shapiro-Wilk tests were non-significant for all levels of the predictor variable. The assumption of heteroscedasticity was tested by examining the plot of the standardized residual against the standardized predicted and there was no evidence of a violation to this assumption. The variance of the residuals appeared constant.

The correlation coefficient (R) is the strength of the relationship between collaborative leadership and English/language arts. There was an extremely small relationship between collaborative leadership and English/language arts, $R = .015$. The coefficient of determination (R^2) value gave the amount of variance in the criterion variable which could be explained by the predictor variable. The R^2 was less than .1%. The adjusted R^2 gave an unbiased estimate of coefficient of determination (R^2) for the population as it corrected the R^2 based on the sample size. The adjusted R^2 was -.003. The .003 difference between the R^2 and adjusted R^2 was the shrinkage in the model. The standard error of the estimate (7.015) measured the amount of variability in the points around the regression line. It was the standard deviation of the data points as they were distributed about the regression line. This meant this model has a standard deviation of 7.015 units of English/language arts scores regarding the distances of residuals from the regression (prediction) line.

This linear regression revealed that the predictor (collaborative leadership) does not serve as a significant predictor of English/language arts growth model scores. An ANOVA was completed to test the significance of R^2 within the model. It determined that collaborative

leadership cannot be used to predict English/language arts growth model scores for schools. The ANOVA was not significant, $F(1, 340) = .077$, $p = .781$, thus showing a there is not a significant linear relationship between collaborative leadership and English/language arts growth model scores.

Math Performance Based on Collaborative Leadership

$H_0 2$. Collaborative leadership does not predict student math achievement. The second null hypothesis was examined to determine whether collaborative leadership can serve as a predictor of students' math achievement. This null hypothesis was tested using linear regression.

The assumption of independence of error was tested using the Durbin-Watson statistic looking to see whether the score was close to 2. The Durbin-Watson score was 1.971. There was no violation of the assumption of independence of error with a Durbin-Watson of approximately 2. The assumption of linearity sought to verify that the relationship was linear in nature. It was examined comparing the plot of standardized residual against the standardized predicted. It was evident there was a linear relationship. There were no violations with the assumption of normality as all Shapiro-Wilk tests were non-significant for all levels of the predictor variable. The assumption of heteroscedasticity was tested by examining the plot of the standardized residual against the standardized predicted and there was no evidence of a violation to this assumption. The variance of the residuals appeared constant.

The correlation coefficient (R) is the strength of the relationship between collaborative leadership and math results. There was an extremely small relationship between collaborative leadership and math growth model average scores, $R = .062$. The coefficient of determination (R^2) value gave the amount of variance in the criterion variable which could be explained by the predictor variable. The R^2 was less than .1%. The adjusted R^2 gave an unbiased estimate of

coefficient of determination (R^2) for the population as it corrected the R^2 based on the sample size. The adjusted R^2 was .001. The .003 difference between the R^2 and adjusted R^2 was the shrinkage in the model. The standard error of the estimate (10.288) measured the amount of variability in the points around the regression line. It was the standard deviation of the data points as they were distributed about the regression line. This meant this model had a standard deviation of 10.288 units of math average growth scores regarding the distances of residuals from the regression (prediction) line.

This linear regression revealed that the predictor (collaborative leadership) does not serve as a significant predictor of math growth model scores. An ANOVA was completed to test the significance of R^2 within the model. It determined that collaborative leadership cannot be used to predict math growth model scores for schools. The ANOVA was not significant, $F(1, 340) = 1.325$, $p = .250$, thus showing a there is not a significant linear relationship between collaborative leadership and math growth model scores.

English/Language Arts Performance Based on Teacher Collaboration

$H_0 3$. Teacher collaboration does not predict student English/language arts achievement. The third null hypothesis was examined to determine whether teacher collaboration can serve as a predictor of students' English/language arts achievement. This null hypothesis was tested using linear regression.

The assumption of independence of error was tested using the Durbin-Watson statistic to determine whether the score was close to 2. The Durbin-Watson score was 1.812. There was no violation of the assumption of independence of error with a Durbin-Watson of approximately 2. The assumption of linearity sought to determine that the relationship was linear in nature. It was examined comparing the plot of standardized residual against the standardized predicted. It was

evident there was a linear relationship. There were no violations with the assumption of normality as all Shapiro-Wilk tests were non-significant for all levels of the predictor variable. The assumption of heteroscedasticity was tested by examining the plot of the standardized residual against the standardized predicted and there was no evidence of a violation to this assumption. The variance of the residuals appeared constant.

The correlation coefficient (R) is the strength of the relationship between teacher collaboration and English/language arts. The correlation coefficient of .013 left one to consider, there was a small relationship between collaborative leadership and English/language arts, R = .013. The coefficient of determination (R^2) value gave the amount of variance in the criterion variable which could be explained by the predictor variable (R^2 = .010). The adjusted R^2 gave an unbiased estimate of coefficient of determination (R^2) for the population as it corrected the R^2 based on the sample size. The adjusted R^2 was .010. The .003 difference between the R^2 and adjusted R^2 was the shrinkage in the model. The standard error of the estimate (6.972) measured the amount of variability in the points around the regression line. It was the standard deviation of the data points as they were distributed about the regression line. This meant this model had a standard deviation of 6.972 units of English/language arts scores regarding the distances of residuals from the regression (prediction) line. This linear regression revealed that the predictor (teacher collaboration) may have the ability to accurately serve as a significant predictor of English/language arts growth model scores. An ANOVA was completed to test the significance of R^2 within the model. It determined that teacher leadership may be used to predict English/language arts growth model scores for schools. The ANOVA was significant, $F(1, 340) = .4{,}333$, $p = .038$, thus showing a there is a significant linear relationship between teacher collaboration and English/language arts growth model scores.

Teacher collaboration had an unstandardized partial regression coefficient of 46.385, which meant that English/language arts growth model scores were predicted to change 46.385 with a one unit increase in teacher collaboration. The standardized partial regression coefficients (β weight) for the predictor (standard) allowed the measurement of the impact of teacher collaboration on English/language arts growth model scores in standardized units through the use of *z*-scores. Teacher collaboration had a standardized partial regression coefficient (β weight) of .112. This showed the amount of impact teacher collaboration had regarding the prediction of English/language arts growth model scores. Through the use of linear regression, the model indicated the predictor (teacher collaboration) significantly predicts English/language arts growth model scores, $t(1, 340) = 26.493$, $p = < .001$.

Math Performance Based on Teacher Collaboration

$H_0$4. Teacher collaboration does not predict student math achievement. The fourth null hypothesis was examined to determine whether teacher collaboration can serve as a predictor of students' math achievement. This null hypothesis was tested using linear regression. The *R* is the strength of the relationship between collaborative leadership and math results.

The assumption of independence of error was tested using the Durbin-Watson statistic looking to see whether the score was close to 2. The Durbin-Watson score was 1.838. There was no violation of the assumption of independence of error with a Durbin-Watson of approximately 2. The assumption of linearity sought to determine that the relationship was linear in nature. It was examined by comparing the plot of standardized residual against the standardized predicted. It was evident there was a linear relationship. There were no violations with the assumption of normality as all Shapiro-Wilks tests were non-significant for all levels of the predictor variable. The assumption of heteroscedasticity was tested by examining the plot of

the standardized residual against the standardized predicted and there was no evidence of a violation to this assumption. The variance of the residuals appeared constant.

The correlation coefficient (R) is the strength of the relationship between teacher collaboration and math. There was an extremely small relationship between teacher collaboration and math growth model average scores, $R = .039$. The coefficient of determination (R^2) value gave the amount of variance in the criterion variable which could be explained by the predictor variable. The R^2 was less than .1%. The adjusted R^2 gave an unbiased estimate of coefficient of determination (R^2) for the population as it corrected the R^2 based on the sample size. The adjusted R^2 was -.001. The .003 difference between the R^2 and adjusted R^2 was the shrinkage in the model. The standard error of the estimate (10.301) measured the amount of variability in the points around the regression line. It was the standard deviation of the data points as they were distributed about the regression line. This meant this model had a standard deviation of 10.301 units of math average growth scores regarding the distances of residuals from the regression (prediction) line.

This linear regression revealed that the predictor (teacher collaboration) does not have serve as a significant predictor of math growth model scores. An ANOVA was completed to test the significance of R^2 within the model. It determined that teacher collaboration cannot be used to predict math growth model scores for schools. The ANOVA was not significant, $F(1, 340) = .522$, $p = .470$, thus showing there is not a significant linear relationship between teacher collaboration and math growth model scores.

Summary

Throughout this chapter, quantitative data were used to seek answers to the four research questions found in this study. Through the use of linear regression, Research Question 1 showed

there was an extremely small relationship between collaborative leadership and English/language arts growth model scores for the school. Due to this small relationship between English/language arts growth model scores and collaborative leadership, collaborative leadership cannot serve as a predictor for English/language arts growth model scores for the school. Research Question 2 established there was an extremely small relationship between collaborative leadership and math growth model scores for the school. Due to the small relationship between math growth model scores and collaborative leadership, collaborative leadership cannot serve as a predictor for math growth model scores for the school.

Through the use of linear regression, Research Question 3 showed that English/language arts growth model scores may be predicted through the level of teacher collaboration ratings. There was a significant relationship between English/language arts growth model scores and teacher collaboration. Research Question 4 indicated there was an extremely small relationship between teacher collaboration and math growth model scores for the school. Due to the small relationship between math growth model scores and teacher collaboration, it can be noted that teacher collaboration cannot serve as a predictor for math growth model scores for the school. The quantitative data found within this chapter was utilized as a basis for implications and conclusions found in Chapter 5.

CHAPTER 5

SUMMARY, RESULTS, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The final chapter of this study is divided into five sections: summary, results, discussion, conclusions, and recommendations for further research. The summary section addresses the purpose of the study, why collaborative leadership and teacher collaboration were chosen as a framework for this study, and who benefits from the study. The results section provides a summary of the data that were previously presented in Chapter 4. The discussion section interprets the results looking at both collaborative leadership and teacher collaboration as related to student achievement for math and for English/language arts. It reflects why the findings may have resulted as presented in Chapter 4. The conclusion section provides insight into what school leaders might do to ensure teacher collaboration is focused on and supported in a way in which educators recognize improved academic achievement results. Finally, the recommendations for further study provide suggestions on additional testing that could enhance the current study.

Summary

The purpose of this quantitative study was to determine whether collaborative leadership and teacher collaboration predict student achievement. Specifically, the study attempted to discover if there is a significant relationship between collaborative leadership and student achievement and if there is a significant relationship between teacher collaboration and student

achievement.

This study used the cultural survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). The survey provides information pertaining to shared values/beliefs in the school. The factors measure specific aspects of a school's collaborative culture. The measured factors are

1. Collaborative Leadership: Measures the degree to which school leaders establish and maintain collaborative relationships with school staff.
2. Teacher Collaboration: Measures the degree to which teachers engage in constructive dialogue that furthers the educational vision of the school.
3. Professional Development: Measures the degree to which teachers value continuous personal development and school-wide improvement.
4. Collegial Support: Measures the degree to which teachers work together effectively.
5. Unity of Purpose: Measures the degree to which teachers work toward a common mission for the school.
6. Learning Partnership: Measures the degree to which teachers, parents, and students work together for the common good of the student. (Gruenert & Valentine, 1998)

The instrument was administered electronically to teachers and principals in elementary and middle schools throughout Indiana via SurveyMonkey.

The study was conducted to investigate the following questions:

1. Does collaborative leadership predict student English/language arts achievement?
2. Does collaborative leadership predict student math achievement?
3. Does teacher collaboration predict student English/language arts achievement?
4. Does teacher collaboration predict student math achievement?

Research suggests that the more competent the teacher the greater positive impact the teacher will have on student achievement (Marzano & Waters, 2009). Collaborative leadership and teacher collaboration were chosen for this study to provide insight into how collaborative leadership and teacher collaboration might enhance teacher effectiveness resulting in increased student achievement.

In addition to the level of competence for the teacher being correlated to higher student achievement, Marzano and Waters (2009) stressed that when districts and schools are high functioning in terms of leadership behavior, they can positively impact student achievement. Dufour and Eaker (1998) stressed the importance of shared values that shape a culture but also stressed that "the principal is an instructional leader who communicates the school mission to students, teachers, and the community. However, leadership is widely dispersed and the principal serves as leader of leaders—coach, a partner, and a cheerleader" (p. 71). Spillane (2006) stated it another way when he suggested, "A distributed leadership perspective moves beyond the Superman and Wonder Woman view of leadership" (p. 3).

Collaborative leadership and teacher collaboration can function effectively through professional learning communities where the principal and teams of teachers work together to develop capacity of individual teachers and the teaching team collectively. Such collaboration requires teachers to interact with one another about their personal teaching experiences and results. "One of the primary functions of the PLC movement is the 'deprivitization' of practice," (Marzano, Frontier, & Livingston, 2011, p. 7). Dufour, Dufour, and Eaker (2008) cited work including analyses of data collected by the Center on Organization and Restructuring of Schools that focused on PLCs. The Center on Organization and Restructuring of Schools agreed that the

development of PLCs was critical to improving schools and found that teachers in a PLC are committed to

1. Reflective dialogue based on a shared set of norms, beliefs, and values that allow them to critique their individual and collective performance
2. De-privatization of practice that requires teachers to share, observe, and discuss each other's methods and philosophies
3. Collective focus on student learning fueled by the belief that all students can learn and that staff members have a mutual obligation to make sure students learn
4. Collaboration that moves beyond dialogue about students to producing materials that improve instruction, curriculum, and assessments for students
5. Shared norms and values that affirm common ground on critical educational issues and a collective focus on student learning. (Dufour et al., 2008, p. 442)

Dufour and Eacker (1998) suggested that a professional learning community is likely to fail without collective inquiry, collaborative teams, an orientation toward action, and a focus on results. Danielson (2006) stressed not only the importance of teacher collaboration while focusing on professional inquiry but that such collaboration must be facilitated by teacher leaders. Principals must focus on creating an environment and culture where teacher leadership can develop in order for teacher leaders to facilitate teacher collaboration that includes remaining alert to changing conditions, monitoring progress, and engaging in critical reflection with regard to effectiveness of specific strategies. Analyzing data to monitor progress should be facilitated by principals and school leaders. Blankstein (2004) suggested that strong leadership involves being a developer and facilitator of other leaders and it requires the principal encouraging others

as well as courage on the part of the principal. When analyzing data, schools or teams may use the data to answers the following questions:

- In which content areas has improvement been made?
- Which content areas still need improvement?
- Which are the areas of greatest potential growth?
- Which students groups need the most assistance?
- Where are the same students alternately weak and strong? (Blankstein, 2004, p. 164)

Collaborative leadership and teacher collaboration were examined to see if focusing on these areas of school culture can lead to exemplary teaching throughout the school and school district and therefore lead to increased student achievement. This study benefits school administrators, teachers, and students. By examining the data, specific components of school culture (collaborative leadership and teacher collaboration) were linked to student achievement data, English/language arts, and math growth model average scores. Through this study, principals and teachers are able to identify components of collaborative practices to focus on in order to improve student achievement. Ultimately, this study's main purpose was to improve student achievement by focusing on strategies that promote data-driven decision making through a collaborative approach to meeting the individual needs of students as well as the entire student body collectively while focusing on further development of teachers resulting in exemplary teaching.

Results

The findings of this study were presented in Chapter 4. The study centered on questions relating to collaborative leadership and student achievement data and teacher collaboration and student achievement data:

1. Does collaborative leadership predict student English/language arts achievement?
2. Does collaborative leadership predict student math achievement?
3. Does teacher collaboration predict student English/language arts achievement?
4. Does teacher collaboration predict student math achievement?

There were 342 participants in the research project to answer the four questions. Of the 342 participants, 245 were from elementary buildings and 97 were from middle schools. The sample group included 82 principals and 257 teachers. There were 62 elementary principals, 21 middle school principals, 243 elementary teachers and 76 middle school teachers. For both collaborative leadership and teacher collaboration, principals rated each higher than teachers and the range on the 5-point Likert scale was less for the principal sample group than that of the teacher sample group. The median rating was .67 higher for principals than teachers for collaborative leadership, and it was .58 higher for the principal sample group than the teacher sample group for teacher collaboration.

Through looking at teacher and principal responses pertaining to collaborative leadership and teacher collaboration, linear regression was performed to see if collaborative leadership or teacher collaboration can serve as predictors for student achievement in the area of English/language arts. Linear regression was also used to determine if collaborative leadership or teacher collaboration can serve as predictors for math.

The first question was examined to determine whether collaborative leadership can serve as a predictor of students' English/language arts achievement. This question was answered using linear regression. There was an extremely small relationship between collaborative leadership and English/language arts. Based on the results of this study, collaborative leadership cannot serve as a predictor of students' English/language arts achievement.

The second question was examined to determine whether collaborative leadership can serve as a predictor of students' math achievement. This question was answered using linear regression. There was also an extremely small relationship between collaborative leadership and math growth model average scores which means that based on the results of this study, collaborative leadership cannot serve as a predictor of students' math achievement.

The third question was examined to determine whether teacher collaboration can serve as a predictor of students' English/language arts achievement. This question was tested using linear regression. It was determined there was a small relationship between teacher collaboration and English/language arts scores. This linear regression revealed that the predictor (teacher collaboration) may have the ability to predict English/language arts growth model scores. Through the use of linear regression, the model indicated the predictor (teacher collaboration) significantly predicts English/language arts growth model scores.

The fourth question was examined to determine whether teacher collaboration can serve as a predictor of students' math achievement. This question was tested using linear regression. There was an extremely small relationship between teacher collaboration and math growth model average scores. Based on this study this linear regression revealed that the predictor (teacher collaboration) does not have the ability to predict math growth model scores.

Discussion

The data findings did not present evidence that suggests collaborative leadership may serve as a predictor to student achievement for English/language arts or math. When looking at collaborative leadership responses of principals and teachers, the higher ranking by principals than teachers may suggest disconnect between principals and teachers. It is possible that

principals may have felt, in some cases, they are more collaborative in their leadership style than teachers may have felt is the case.

Additionally Indiana has been in a state of flux over the past several years given the requirement of a 90-minute reading blocks, a new evaluation requirement with a stronger link to student achievement in determining teacher effectiveness, and the new laws related to teacher contracts resulting in less bargaining rights. These new changes and initiatives may leave teachers with a sense of top-down leadership, and they may feel that collaborative leadership is not the case in Indiana schools.

In 2011, Indiana elementary schools, K-6, were required to implement uninterrupted 90-minute reading blocks to ensure quality reading programs in every classroom. Teachers were to focus on uninterrupted time focusing on daily comprehensive reading instruction using scientifically based reading programs and materials. The requirements are specific ensuring instruction is aligned to grade-level standards and driven by assessment data. Such a data-driven approach was expected to monitor student learning of critical skills and ensure adequate reading development of each student.

The new system for evaluating teachers was signed into law in 2011. The system measures teachers' success in planning, instruction, leadership, and professionalism. Additionally, administrators rely on test scores as an additional component of the evaluation system and a teacher determined to negatively affect student achievement and growth cannot receive a rating of effective or highly effective. Teachers who do not receive a rating of effective or highly effective cannot receive an increase on salary scale for the following year.

On April 20, 2011, Indiana Governor Mitch Daniels signed Senate Bill 575 into law. The law limited school corporations and teachers' unions to bargain salary and wage-related benefits.

Additionally, the intent of the bill was to empower school leaders to make decisions based on students' needs.

These many changes in Indiana for public school teachers may have had an impact on morale. Additionally, the changes may have left teachers questioning relationships between administration and teachers causing them to also question whether or not principals truly embrace collaborative leadership.

The data findings presented evidence that suggests teacher collaboration may serve as a predictor to student achievement in the area of English/language arts. The data findings did not provide evidence to support that teacher collaboration can serve as a predictor to student achievement. Based on the results of this research, it is possible that schools where teachers embrace and engage in teacher collaboration may utilize collaborative processes and, therefore, this may lead to increased student achievement in the area of English/language arts.

In order for teachers to have the time needed to collaborate they need the support of the principal in allocating time for such collaborative efforts. Schmoker (2006) suggested that teachers should meet at least twice a month for 45 minutes or longer to analyze achievement data, set goals, and develop strategies to address the findings from studying the data. Teacher teams may choose to meet first thing in the morning, after school, or during common planning times if the principal is willing and able to develop such schedules that allow for common planning during the school day. Additionally, principals can work with district office personnel to apply for early release or late start days throughout the school year to allow for additional time for teacher collaboration. Regardless of how principals support their teachers to ensure teacher collaboration, Schmoker suggested that teams have the opportunity to meet frequently and that teams should commit themselves to focusing on instruction with a concentration on examining

specific practices and strategies, along with the consequences of such practices. Schmoker also stressed the importance of common assessment as a vehicle for examining instructional practices and making future instructional decisions when addressing student needs.

Dufour and Eaker (1998) stressed five assumptions for teachers to follow when collaborating to ensure curriculum development that can help schools and teams operate as professional leaning communities and focus on student learning:

1. Teachers should work collaboratively to design research-based curriculum that reflects the best thinking in each subject area.
2. The curriculum should help teachers, students, and parents clarify the specific knowledge, skills, and dispositions that students should acquire as a result of their schooling.
3. The results-oriented curriculum should reduce content and enable all parties to focus on essential and significant learning.
4. The curriculum process should enable an individual teacher, a teaching team, and the school to monitor student achievement at the classroom level.
5. Curriculum and assessment processes should foster commitment to continuous improvement. (p. 155)

Marzano and Waters (2009) stressed the importance of classroom teachers with regard to the impact they have on student achievement when they pointed out that the more competent the teacher, the greater the expected gain in student achievement. Marzano and Waters also stressed that when teachers systematically talk about instruction that such talk goes a long way in creating a collaborative culture that is focused on teaching. Marzano and Waters stressed that when teachers observe other master teachers in action and then engage in dialogue that focuses on the

observed strategies and practices that occurred during the observation, this can lead to teacher development. The outcome may lead to ongoing teacher development that results in increased student gains for those teachers that are observing master teachers.

Teacher collaboration can lead to increased student achievement. More specifically, teacher collaboration focusing on data-driven decisions for instruction, remediation and enrichment, and professional development with an emphasis on improving student achievement can lead to increased student achievement in the area of English/language arts. Based on these findings, principals should make efforts to work alongside teams of teachers within the building to develop curriculum maps in cases where such maps are not developed. Principals should make efforts to provide teachers with common planning opportunities to develop units of study and lessons plans making a conscientious effort to thoughtfully incorporate grade-level standards. Additionally, common assessments should be developed for each unit so that teachers can monitor and frequently measure student progress along the way and make informed instructional decisions ensuring students' individual needs and collective needs are met. As trends are recognized pertaining to strengths and weaknesses in the curriculum or pedagogy, adjustments to the curriculum can be made. When development of pedagogical needs arise, teachers can collaboratively develop professional development strategies to address the needs through strategies such as peer observations and debriefing opportunities, comparing data and discussing trends and what strategies and practices seem to get the best results, and professional book studies or discussions on specific articles may all be ways for teachers to work together supporting one another's professional growth.

Although the data findings did not present evidence that suggest teacher collaboration may serve as a predictor to student achievement for math based on growth model scores,

additional research in this area may be warranted. Given the recent focus on reading and the 90-minute uninterrupted reading block, is it possible that much more time and effort in Indiana schools recently has been devoted to collaborative efforts in the area of English/language arts and reading? Additionally, if research were to focus on the problem-solving component of math and measure effects of achievement in the area of math problem solving, it is possible that such a link may be observed.

Conclusion

Teacher collaboration can lead to increased student achievement in the area of English/language arts. "What occurs in the classroom has the most direct causal link to student achievement" (Marzano et al., 2011, p. 5). School principals can support teacher collaboration by ensuring teachers have the time in the daily schedule to meet regularly to discuss student achievement, instructional practices and strategies, and ways to improve as teachers. School principals can support such collaboration by working alongside teams of teachers and learning with teachers. Dufour and Marzano (2011) stated,

> To become the best leader you can be, demonstrate your confidence in the possibility of improvement through the collective efforts of those you lead by putting a process in motion to foster the necessary changes. Then begin to present concrete evidence that improvement is taking place. Celebrate the progress. It is difficult for doubters to remain skeptical when confronted with concrete evidence of irrefutably better results. (p. 200)

Collaboration should include focusing on setting goals, focusing on the adopted curriculum, and mapping out the curriculum. Such collaborative efforts will ensure all members of the team are similar in their teaching schedule, utilizing student data including common assessments to make informed instructional decisions, and then analyzing the data looking for

trends that will guide instructional decision making. Approaching the instructional achievement cycle collaboratively with colleagues ensures a collaborative effort of meeting student needs while building capacity within the teaching team through collegial support. The suggested achievement cycle is illustrated in Figure 1.

Figure 1. Achievement cycle.

When teams of teachers work collaboratively focusing through the achievement cycle educators can positively impact student achievement in the area of English/language arts. Such collaboration should include discussions pertaining to curriculum and instruction as depicted in Circle 1. Dialogue focusing on common planning pertaining curriculum and instruction utilizing standards maps that are mapped out into quarters will ensure teachers are teaching on a similar

schedule. Together teachers can map out a unit, develop lessons and teach accordingly. Adjustments are made in the curriculum as determined by the data.

The second circle represents the need for common assessments to be in place in order to collaboratively study and look for specific trends in student learning outcomes along the way. These assessments should be frequent and formative to address students' needs ensuring no child is left behind and all are challenged appropriately. Collaborative efforts are made to analyze the data.

Circle 3 represents the stage for analyzing the data which will lead to opportunities for teacher teams to find and pinpoint those specific trends and outcomes. At this stage in the achievement cycle, teaching practices and strategies should be discussed and scrutinized for effectiveness. Teachers should compare outcomes and determine which strategies were most effective. Through the findings teachers can evaluate the situation and adjust their strategies and practices accordingly.

In the fourth circle, teachers determine which standards may require strategies for addressing specific needs of students and to what degree. In some cases specific standards may require ongoing spiral review. It may be determined that some students require immediate remedial support for other standards while another group of students may require enrichment opportunities.

Throughout the achievement cycle process, ongoing discussions pertaining to effective strategies and practices occur. Peer observations may occur along with literature studies that support teacher development. Along with literature studies, student achievement is studied to determine specific needs for additional teacher development.

Teacher collaboration can impact student achievement positively in the area of English/language arts. Collaborative efforts require adequate time for teachers to meet regularly. Collaborative efforts can be supported by school principals when they develop schedules that allow teachers to meet regularly. Principals should work alongside teachers and learn with them along the way while also monitoring the achievement cycle process as teachers collaborate in a way that supports the achievement cycle. Additionally, principals can serve as cheerleaders along the way ensuring that achievement gains are not only recognized but also celebrated. Recognition, support, and celebration will ensure better results are recognized and therefore individual teachers may focus on continuous development through teacher collaboration and collegial support.

Recommendations for Future Research

Although there was a significant difference with regard to teacher collaboration and English/language arts, the relationship was relatively small. Further research in this area may be warranted. Additionally, this research may be improved by utilizing multiple years of growth data for both English/language arts and math rather than looking at only two years of data. It may also be worth considering whether looking at growth model data for overall math and growth model data for overall English/language arts may be too broad for each area. For example since a small relationship was noted with regard to teacher collaboration and English/language arts but not math, is it possible a relationship may be noted by narrowing the focus to looking at teacher collaboration and math problem solving skills specifically with regard to math achievement? It may be useful to look at teacher collaboration and how it affects more specific areas of the English/language arts curriculum such as writing ISTEP+ applied skills ratings on the writing rubric, reading levels with regard to comprehension, or reading fluency.

Additional research narrowing the focus with regard to student assessment data may provide additional information as to what areas of achievement may most strongly be predicted by the level of teacher collaboration.

Additional research may also be warranted in looking at teacher collaboration and its effect on student achievement in the area of math. More specifically, does teacher collaboration positively impact student achievement in the area of math problem solving? With the shift in instructional practices moving to process oriented work and away from one specific answer, a focus on teacher collaboration may also be warranted. Additionally, the Indiana Department of Education is moving to a new testing system—one that will emphasize higher-level thinking skills and problem-solving skills and focus on multiple-step solutions to problems aligned to the common core state standards in English/language arts and mathematics. As teachers make instructional shifts in the classroom to prepare students for such tasks, they may benefit through teacher collaboration.

In addition, with regard to additional research projects pertaining to teacher collaboration, it may also be beneficial to include in the survey questions that provide additional information pertaining to the descriptive data. Do teachers feel they actually have adequate time to effectively collaborate? How much time is spent collaborating per month? Is collaboration supported with time built into the schedule or are teacher expected to collaborate on their own time? Such descriptive data can ensure a clearer understanding of the sample group.

The higher ratings by principals than teachers for both collaborative leadership and teacher collaboration may warrant additional research for other components of school culture including feelings about professional development, unity of purpose, and collegial support as compared to teacher ratings. This information may be helpful to principals as they focus on

building a collaborative culture that is focused on continuous improvement with regard to student achievement. Principals may benefit by knowing the overall sentiment of the teachers within the building with regard to the degree teachers value continuous personal growth and school-wide improvement, the degree teachers work to a common mission for the school, and the degree teachers work together effectively. Focusing on such additional research in this area might provide useful findings if the researcher links each principal rating to the teacher ratings within the same building and see if there is disconnect in many of the buildings in the sample group. As principals gain a clearer understanding of the school culture, this may give principals further insight with regard to building professional learning communities working together to improve student achievement.

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APPENDIX A: SCHOOL CULTURE SURVEY

Indicate the degree to which each statement describes conditions in your school.

Please use the following scale:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

		Strongly Disagree	*Disagree*	*Undecided*	*Agree*	*Strongly Agree*
1.	Teachers utilize professional networks to obtain information and resources for classroom instruction.	①	②	③	④	⑤
2.	Leaders value teachers' ideas.	①	②	③	④	⑤
3.	Teachers have opportunities for dialogue and planning across grades and subjects.	①	②	③	④	⑤
4.	Teachers trust each other.	①	②	③	④	⑤
5.	Teachers support the mission of the school.	①	②	③	④	⑤
6.	Teachers and parents have common expectations for student performance.	①	②	③	④	⑤
7.	Leaders in this school trust the professional judgments of teachers.	①	②	③	④	⑤
8.	Teachers spend considerable time planning together.	①	②	③	④	⑤
9.	Teachers regularly seek ideas from seminars, colleagues, and conferences.	①	②	③	④	⑤
10.	Teachers are willing to help out whenever there is a problem.	①	②	③	④	⑤
11.	Leaders take time to praise teachers that perform well.	①	②	③	④	⑤
12.	The school mission provides a clear sense of direction for teachers.	①	②	③	④	⑤
13.	Parents trust teachers' professional judgments.	①	②	③	④	⑤
14.	Teachers are involved in the decision-making process.	①	②	③	④	⑤
15.	Teachers take time to observe each other teaching.	①	②	③	④	⑤
16.	Professional development is valued by the faculty.	①	②	③	④	⑤
17.	Teachers' ideas are valued by other teachers.	①	②	③	④	⑤
18.	Leaders in our school facilitate teachers working together.	①	②	③	④	⑤
19.	Teachers understand the mission of the school.	①	②	③	④	⑤
20.	Teachers are kept informed on current issues in the school.	①	②	③	④	⑤
21.	Teachers and parents communicate frequently about student performance.	①	②	③	④	⑤
22.	My involvement in policy or decision making is taken seriously.	①	②	③	④	⑤
23.	Teachers are generally aware of what other teachers are teaching.	①	②	③	④	⑤
24.	Teachers maintain a current knowledge base about the learning process.	①	②	③	④	⑤
25.	Teachers work cooperatively in groups.	①	②	③	④	⑤

26.	Teachers are rewarded for experimenting with new ideas and techniques.	①	②	③	④	⑤
27.	The school mission statement reflects the values of the community.	①	②	③	④	⑤
28.	Leaders support risk-taking and innovation in teaching.	①	②	③	④	⑤
29.	Teachers work together to develop and evaluate programs and projects.	①	②	③	④	⑤
30.	The faculty values school improvement.	①	②	③	④	⑤
31.	Teaching performance reflects the mission of the school.	①	②	③	④	⑤
32.	Administrators protect instruction and planning time.	①	②	③	④	⑤
33.	Teaching practice disagreements are voiced openly and discussed.	①	②	③	④	⑤
34.	Teachers are encouraged to share ideas.	①	②	③	④	⑤
35.	Students generally accept responsibility for their schooling, for example they engage mentally in class and complete homework assignments.	①	②	③	④	⑤

APPENDIX B: PERMISSION TO USE SURVEY

From: Steve Gruenert [mailto:Steve.Gruenert@indstate.edu]
Sent: Thursday, January 10, 2013 2:51 PM
To: Greiner, Shawn
Subject: RE: Request to Use School Culture Survey

Thank you for taking the time to help us assure integrity of use for this instrument. You have permission to use the instrument for your studies.

Good luck.

From: Greiner, Shawn [mailto:sgreiner@hse.k12.in.us]
Sent: Thursday, January 10, 2013 2:55 PM
To: Steve Gruenert
Cc: Terry McDaniel
Subject: Request to Use School Culture Survey

Dr. Gruenert,

Please find attached a copy of the document needed to request the use of the School Culture Survey developed at the Middle Level Leadership Center, University of Missouri (Gruenert & Valentine, 1998). I would like to have permission granted to use the survey in my study.

Sincerely,
Shawn Greiner

Shawn E. Greiner, Ed.S.
Principal
Thorpe Creek Elementary School

APPENDIX C: SURVEY COVER LETTER TO SUPERINTENDENT

DATE

A COLLABORATIVE APPROACH TO SCHOOL LEADERSHIP AND IMPROVEMENT

The purpose of this letter is to inform you about a research study I am conducting and would like to invite schools within your district to participate. I am inviting elementary and middle schools with any grade level (grades 3-8) participating in ISTEP+. The research study is about school leadership and improvement and how the culture within a school, particularly related to collaborative leadership and teacher collaboration, can have an impact on continuous improvement within a school. This study is being conducted by Shawn Greiner and Dr. Terry McDaniel, from the Department of Educational Leadership at Indiana State University. The study is being conducted as part of a dissertation.

There are no known risks if individuals decide to participate in this research study. There are no costs to individuals for participating in the study. The information provided will examine if there is a strong relationship between collaborative leadership and student achievement and a strong relationship between teacher collaboration and student achievement. The questionnaire will take about 5 to 10 minutes to complete. The information collected may not benefit participants directly, but the information learned in this study should provide more general benefits.

This survey is anonymous and participants are requested not to write their name on the survey. Anonymity will be provided as the information will be kept on a laptop computer that is password protected. IP addresses will not be collected. Absolute anonymity cannot be guaranteed over the Internet. No one will be able to identify participants and responses, and no one will know whether or not individuals participated in the study. Individuals from the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Participation in this study is voluntary. By completing, respondents are voluntarily agreeing to participate. Participants are free to decline to answer any particular question they do not wish to answer for any reason.

If you have any questions about the study, or if you prefer schools within your district not participate, please contact Shawn Greiner, 14642 East 126th Street, Fishers, IN 46037, phone (317) 594-4515, e-mail sgreiner@hse.k12.in.us or Dr. Terry McDaniel, Indiana State University, Terre Haute, phone (812) 821-7252, e-mail Terry.McDaniel@indstate.edu.

If you have any questions about rights as a research subject or if you feel this study places individuals at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN, 47809, by phone at (812) 237-8217, or by e-mail at irb@indstate.edu.

APPENDIX D: SURVEY COVER LETTER TO ASSOCIATION PRESIDENTS

DATE

A COLLABORATIVE APPROACH TO SCHOOL LEADERSHIP AND IMPROVEMENT

The purpose of this letter is to inform you about a research study I am conducting and would like to invite schools within your district to participate. I am inviting elementary and middle schools with any grade level (grades 3-8) participating in ISTEP+. The research study is about school leadership and improvement and how the culture within a school, particularly related to collaborative leadership and teacher collaboration, can have an impact on continuous improvement within a school. This study is being conducted by Shawn Greiner and Dr. Terry McDaniel, from the Department of Educational Leadership at Indiana State University. The study is being conducted as part of a dissertation.

There are no known risks if individuals decide to participate in this research study. There are no costs to individuals for participating in the study. The information provided will examine if there is a strong relationship between collaborative leadership and student achievement and a strong relationship between teacher collaboration and student achievement. The questionnaire will take about 5 to 10 minutes to complete. The information collected may not benefit participants directly, but the information learned in this study should provide more general benefits.

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Participation in this study is voluntary. By completing, respondents are voluntarily agreeing to participate. Participants are free to decline to answer any particular question they do not wish to answer for any reason.

If you have any questions about the study, please contact Shawn Greiner, 14642 East 126th Street, Fishers, IN 46037, phone (317) 594-4515, e-mail sgreiner@hse.k12.in.us or Dr. Terry McDaniel, Indiana State University, Terre Haute, phone (812) 821-7252, e-mail Terry.McDaniel@indstate.edu.

If you have any questions about rights as a research subject or if you feel this study places individuals at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN, 47809, by phone at (812) 237-8217, or by e-mail at irb@indstate.edu.

APPENDIX E: SURVEY COVER LETTER

DATE

A COLLABORATIVE APPROACH TO SCHOOL LEADERSHIP AND IMPROVEMENT

You are being invited to participate in a research study about school leadership and improvement and how the culture within a school, particularly related to collaborative leadership and teacher collaboration, can have an impact on continuous improvement within a school. This study is being conducted by Shawn Greiner and Dr. Terry McDaniel, from the Department of Educational Leadership at Indiana State University. The study is being conducted as part of a dissertation.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you provide will examine if there is a strong relationship between collaborative leadership and student achievement and a strong relationship between teacher collaboration and student achievement. The questionnaire will take about 5 to 10 minutes to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

This survey is anonymous. Do not write your name on the survey. Anonymity will be provided as the information will be kept on a laptop computer that is password protected. IP addresses will not be collected. Absolute anonymity cannot be guaranteed over the Internet. No one will be able to identify you or your responses, and no one will know whether or not you participated in the study. Individuals from the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer for any reason.

If you have any questions about the study, please contact Shawn Greiner, 14642 East 126th Street, Fishers, IN 46037, phone (317) 594-4515, e-mail sgreiner@hse.k12.in.us or Dr. Terry McDaniel, Indiana State University, Terre Haute, phone (812) 821-7252, e-mail Terry.McDaniel@indstate.edu.

If you have any questions about your rights as a research subject or if you feel you've been placed at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN, 47809, by phone at (812) 237-8217, or by e-mail at irb@indstate.edu.