

USING COMMON FORMATIVE ASSESSMENTS TO PROMOTE  
STUDENT ACHIEVEMENT:  
A CASE STUDY OF PRACTICE, LEADERSHIP, AND CULTURE

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Doctorate of Education

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USING COMMON FORMATIVE ASSESSMENTS  
TO PROMOTE STUDENT ACHIEVEMENT:  
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A candidate for the degree of doctor of education, and hereby certify that, in their opinion, it is worthy of acceptance.

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## DEDICATION

In honor of:

My husband, Paul Dean Wall,  
who with understanding and selfless care,  
supported my decision to begin this journey.

Your encouragement, patience and support  
have enabled me to grow, learn, and lead in new ways.

I am so thankful for you.

My mother, Darlene Goracke Carroll,  
You always believed I could accomplish my heart's desires  
with hard work and a tenacious spirit.

Your resilient determination and constant encouragement  
are instilled in my life today.

May 19, 1942—May 10, 1990

My father, Jon M. Carroll,  
Whose diligent work ethic and constructive moral character  
are examples that have helped to shape my life.

Your love and guidance continue to bless me.

I am grateful that you are my Dad.

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Dr. Cynthia MacGregor, Dissertation Supervisor

ABSTRACT

It is the moral responsibility of educators to work diligently to provide every student with rich, challenging coursework in efforts to prepare them for post high school careers and education. The use of common formative assessments provides teachers with the valuable, timely information they need to make instructional decisions that will better support the learning of all students. The purpose of this study was to determine staff members' perceptions of the implementation and effective use of common formative assessments in a progressive upper elementary school in the Midwestern United States. This study also sought to discover the types of leadership that facilitate the effective use of common formative assessments, and explored the cultural ideals and beliefs that contribute to the effective use of these assessments.

The conceptual underpinnings of this study included social justice advocacy leadership, a culture that fosters growth and achievement for all learners, and assessment that supports every child. Research questions were developed to ascertain the effective practices this school used to implement common formative assessment that contributed to sustained achievement in mathematics. This study also sought to discover the types of leadership and cultural characteristics that contributed to the effective use of these assessments.

This instrumental, qualitative case study analyzed the perceptions of third, fourth, and fifth grade level teachers through six focus group discussions. In addition three leadership interviews were conducted that involved the building principal, instructional coach, and school counselor. An open-ended survey gleaned additional insights from the instructional staff at this progressive upper elementary school. Several documents pertinent to the study were analyzed.

Evidence indicated the implementation of common formative assessments in this school did contribute to sustained mathematics achievement. Three major themes emerged: (a) focus and alignment of curriculum, instruction, and assessments, (b) using data to drive instruction, and (c) differentiating instruction to meet student learning needs. Four predominant types of leadership facilitated the implementation and effective use of common formative assessments (a) renewal leadership, (b) moral/ethical leadership, (c) instructional leadership, and (d) distributed leadership. Cultural characteristics that emerged as having significant contributions included: (a) reculture, (b) collaboration, (3) high expectations, and (d) caring relationships. Implications for practice were discussed for each emergent theme in regard to implementation and use, leadership, and culture.

This study was significant as it describes the common formative assessment practices, types of leadership, and cultural characteristics of an upper elementary school who has effectively implemented common formative assessments and has experienced a 29% gain in mathematics scores since implementation. Discussion of study findings would be useful for school leaders seeking to implement common formative assessments in efforts to increase student achievement.

CHAPTER ONE  
INTRODUCTION TO THE STUDY

Background

In April of 1983, The National Commission on Excellence in Education published *A Nation at Risk*. This report declared that the underpinning of American public school education had digressed into one of mediocrity. For the first time in America's history other countries were matching and exceeding America's educational achievements. Another publication, a report of findings from the Second International Math and Science Study asserted that American students were no longer internationally competitive in mathematics and science (McKnight et al, 1987). Furthermore, a 1989 report from the National Research Council, *Everybody Counts*, claimed that the absence of a strong foundation in math was the most significant factor that prohibits students from seeking scientific and professional careers. The report also noted the level of math competency in high school often determines persistence to graduation.

Shoenfeld (2002) concurred, claiming that when children fail in mathematics, they limit their access to many of society's resources. More than any other content area, mathematics courses have conventionally provided students access to technological literacy and higher education. Furthermore, when students lack conceptual understanding of mathematics, they are sorted out of curricular pathways leading to professional and scientific careers. For these reasons alone, providing students with a rigorous mathematics curriculum and teaching skills to master mathematics is of utmost importance.

Especially concerning, was the reality that these negative effects were much more significant for Black and Hispanic students (National Research Council, 1989), and students of poverty (Schmidt, 2001). A sobering outcome of these reports was the prevailing perception by many that American public schools were failing to provide the rigorous instruction and high quality assessments needed for American students to be internationally competitive.

President George W. Bush signed The *No Child Left behind Act of 2001* (NCLB) was signed into law on January 8, 2002. A principal feature of this edict required each state to develop and administer standardized summative assessments in reading and math for students at every grade level. As a result, the state of Missouri established annual grade level achievement targets with the expectation that all students in third through eighth grade score proficient or advanced on the communication arts and mathematics summative subtests of the Missouri Assessment Program and on the End of Course exam for high school Algebra I, English II, and Biology. As grade level targets increased each year, Missouri schools faced mounting accountability for the academic progress of all subgroups of students including: minority populations, English language learners, students identified with one or more specific learning disabilities, and students of poverty.

When a school failed to meet annual performance targets, it was labeled as a “school in need of improvement.” The mandates embedded within the *NCLB Act* declared schools failing to make adequate yearly progress would face measures which may include the loss of federal and state funding, the loss of students, required school reform, complete school reorganization, and possibly school closure (Zhao, 2009).

More importantly, however, are the statistics that reveal educational achievement matters greatly to individual students and for the well being of society. While educational achievement has always been important, success in school matters more for students and society now than ever before. In 1973, the average high school dropout could expect to earn approximately \$13 per hour. By 2005, high school dropouts could expect to earn \$11 per hour—two dollars less per hour, twenty-two years later! In comparison, in 1973 a student with an advanced degree earned approximately twice as much per hour as a high school dropout. By 2005 this number had increased to three times the hourly salary of a high school dropout (William, 2011).

Students who are educated earn more money, are healthier, and experience an increased life span. The Missouri Department Of Elementary and Secondary Education (2012) reported that in Missouri alone 10,551 students did not graduate in 2010, resulting in a graduation rate of just over 85% for the state, leaving almost 15% of Missouri's 2010 high school graduation class with no high school diploma. Crime-related savings and additional revenue for the state of Missouri would increase almost 147 million each year if the graduation rate of Missouri males would increase by only five percent. Simply put, not meeting the needs of Missouri's children and ultimately preventing students from dropping out is catastrophic for individuals as well as the welfare of communities throughout the state (Alliance for Excellence in Education, 2010). According to a Missouri Economic Research & Information Center (MERIC) Occupational Employment and Wage Survey (2010) that identified long-term occupational projections through the year 2018, occupations requiring college training beyond high school continue to be the fastest growing and highest paid positions in Missouri.

William (2011) reminded educators that society is entering a new age where productive employment is not necessarily available to all adults who are motivated and willing to work. Technology currently performs many routine, cognitive jobs, or many of these jobs are off-shored, with this trend increasing globally. Much of the manufacturing and blue-collar jobs that were available to low-skilled workers in the 60's and 70's are rapidly disappearing due to increased technology and outsourcing for low cost labor in other countries. The nature of the workforce is radically changing—to the degree that students who lack knowledge and skills for education beyond the high school diploma will be ill prepared for their future. No longer does having a high school diploma ensure a life free of deprivation and impoverishment. Students need to be equipped and ready for college and post-high school careers—their livelihood and success depend upon the educators who touch their lives daily.

In light of these harsh realities, this study will focus upon the close analysis of a progressive Midwestern United States upper elementary school to discover how and in what ways this school utilizes common formative assessments to contribute to sustained improvement in mathematics achievement. This study will also seek to discover the types of leadership that contribute to the effective use of common formative assessments and will explore the cultural ideals and beliefs that guide both educators and students to reach for high levels of achievement in mathematics.

### *Conceptual Underpinnings for the Study*

Leadership that is concerned with achievement for all students seeks to make a difference in the lives of every student served. These leaders display an explicit, profound, all-embracing moral purpose. Marshall and Gerstl-Pepin (2005) coined the

term *Social justice advocacy leadership*, a type of leadership which blends five distinct leadership perspectives together to form a balanced moral leadership that empowers, collaborates, advocates, and endures. These five leadership perspectives include: critical pluralist, transformative, moral and ethical, feminist “caring,” and spiritual/cultural.

*Critical Pluralist.* Critical Pluralist type leadership promotes the democratic participation of all stakeholders to ensure that a broad pluralistic base of support supports school change and reform. While democratic representation is ideal, at times minority members’ perspectives are not heard or considered by other members of the committee, which discourages minority members from participating in decision-making. This real concern demonstrates that adopting a critical pluralist leadership platform does not necessarily ensure that all are involved in decision-making, especially when subtle disregard of minority input is present (Marshall & Gerstl-Pepin, 2005).

*Transformative Leadership.* Transformative leadership (not to be confused with *transformational* leadership) is founded upon the idea that the purpose of education is to empower and socially transform by revealing contradictions and failures embedded within education, overcoming these unspoken inequities, and taking an activist stance against unfair practices. These leaders engage others in dialogue surrounding social injustices in education, and actively take responsibility for overcoming these injustices and becoming keenly involved in creating positive change (Marshall & Gerstl-Pepin, 2005).

*Moral and Ethical Leadership.* Moral and ethical leadership concentrates on the belief that decision making in schools should be based upon moral and ethical questions, and schools are places that nurture and care for children. This type of leadership seeks to

educate in ways to support all students, not merely a privileged few (Marshall & Gerstl-Pepin, 2005). Hargreaves and Fullan (1998) called for schools to reach for higher moral purposes in education, “transforming children’s lives and building a better world for the generations of the future” (p. 30). They provided four purposes of schooling that have specific moral value and should be utilized to engage all students: to love and care, to serve, to empower, and to learn.

*Feminist “Caring” Leadership.* Feminist “caring” leadership promotes a sense of kinship and community by strongly valuing relationships. This facilitative, inclusive leadership style works to develop and care for others by reducing competition and promoting a “home” environment that supports and nurtures all members of the learning community. Feminist care leaders seek to create programs and provide services that meet the needs of the individual learner, enabling them to experience belonging and security. These leaders believe schools should provide a nurturing environment, enabling students to fully develop by providing caring adults to guide and facilitate learning with adequate material resources (Marshall & Gerstl-Pepin, 2005).

*Spiritual/cultural leadership.* Spiritual/cultural leadership is based upon the characteristics of black female educational leaders who promote care, concern, and the well being of both students and teachers. These types of leaders “...exhibit determination, courage, and compassion driven by their own sense of equality and justice, grounded in their experiences as minorities, and focused on helping children to overcome obstacles” (p. 270). Spiritual/cultural leaders believe education must move beyond merely meeting the achievement needs of all students, but rather, providing a soulful, meaningful experience for all children (Marshall & Gerstl-Pepin, 2005).

The five leadership styles come together in their commitment to social justice and willingness to work with interest groups and members of the community in a spirit of mutual appreciation and respect. Social justice advocacy leaders believe all children can learn at high levels, and they promote a positive, caring learning environment for both students and staff (Marshall & Gerstl-Pepin, 2005). The work of Hattie (2009) and Waters, Marzano, and McNulty (2005) illustrated effective leadership encourages teachers to engage in conversations that confront typical achievement patterns. Simply put, these leaders encourage teachers to move beyond the status quo, increasing expectations for student learning and for instructional effectiveness. Often times this requires leadership that can facilitate renewal or change within the very culture of the school.

Today's educators are compelled to take greater initiative by developing a moral stand against many of the societal pressures that face education. With lightning-speed technology, the time reserved for information gathering and decision-making has been greatly condensed, increasing both stress and anxiety. Many leaders and teachers feel like they are merely reacting to ever-present and immediate pressures without the planning and reflection that leads to proactive rather than reactive problem solving. By placing moral purpose at the heart of decision-making, educators can sort through the relentless pressures that push for their time, resources, and attention, and represent the best interests of children. By putting students and relationships with students at the forefront, simple structural changes quickly follow. Without these structural changes, the constant pressure from the community and continual barrage of educational initiatives often overwhelm educators (Hargreaves & Fullan, 1998).

### *Culture That Fosters Growth and Achievement for All*

Schools of excellence develop new infrastructures and foster cultures that support learning and teaching (Hargreaves & Fullan, 1998; DuFour, DuFour, & Eaker, et al., 2004, Reeves, 2009). Multiple studies have provided evidence that effective schools are characterized by an “ethos” or “culture” that is oriented towards learning. These cultures include high standards for student achievement, an emphasis on basic skills, the presence of distributed leadership with highly involved, professional teachers, a common purpose, clarity in school policy, and common practices (Reeves, 2003; Rowe, 2007). Most importantly, is the wide-spread belief by school faculty and staff that all students can learn at high levels, and that it is the school’s responsibility to provide additional support and resources as needed to ensure every child masters the essential skills and concepts they will need to succeed at the next grade level and in life (Ainsworth, 2007, Marzano, 2006; Reeves, 2009; Schmoker, 2006). By working in collaborative teams, teachers develop a common purpose. These teams plan and problem-solve together to support student learning. Furthermore, through collaborative conversations, teams share tacit knowledge, which results in building the instructional capacity of participating teachers (Bruffee, 1999; Nonaka & Takeuchi, 1995).

Some of the most important work of collaborative teams is the rich discussions and instructional decision making that surrounds the use of common formative assessments (Ainsworth, 2007, DuFour, DuFour, & Eaker et al., 2004). Moss and Brookhart (2009) defined formative assessment as an “active and intentional process that partners the teacher and the students to continuously and systematically gather evidence of learning with the express goal of improving student achievement” (p. 6). Common

formative assessments are simply formative assessments that have been developed and administered by grade-level or course teams to all students with the expressed purpose of monitoring student progress over power standards or essential standards (Ainsworth, 2007).

### *Common Formative Assessment*

The consistent and regular use of common formative assessments provides teachers many benefits, including ongoing collaboration around effective instruction, and the establishment of consistent expectations across the grade level or common course. The most important benefit is that these assessments enable teachers to identify student learning needs in time to adjust instruction and to provide students with detailed, specific feedback around their current level of performance. By identifying for students what they already know and what they have yet to learn, teachers can encourage, support, and redirect as needed to ensure that students master essential curriculum and are prepared, not only for the next level of learning, but for success in life. These steps instill confidence and foster motivation, which are two factors that significantly impact student teaching (Ainsworth, 2007; DuFour, DuFour, & Eaker et al., 2004; Hattie, 2009).

In summary, effective leaders recognize that all students can learn, and they work diligently to establish a learning environment and culture that fosters care and consideration for the academic progress of every child. They utilize a moral lens to view teaching and learning and actively advocate for the academic achievement of all students. These leaders ardently encourage educators to seek out effective practices and structures that will support the learning of every child during the instructional process, before it is too late, allowing both teachers and students to adjust, reflect, and revisit instructional

strategies and learning tasks. Research of best practice reveals the use of common formative assessments enables teachers to ensure all students reach minimum levels of mastery of essential skills and concepts, which students will need for success on end of year exams, in the next grade level in school, and in life.

### *Statement of the Problem*

Students who are not academically prepared for life when they graduate from high school will struggle in modern society. Tomorrow's jobs require more education than ever before, demanding that every high school student is college and career ready when they graduate from PK-12 education. A Department of Labor study (MERIC, 2010) indicated that by the year 2018, 63% of jobs across the United States will require a diploma beyond high school, with the most rapidly growing job market requiring at least a master's degree. As a result, high school graduates will need to possess a wide variety of skills, including skills surrounding technology and solving real-life problems if they are going to be prepared for the increased rigor of the workforce.

Not surprisingly, high school dropouts experienced a 14.6% unemployment rate in 2009, far higher than for high school graduates at 9.7%, or those earning an associate degree at 6.8% or a bachelor's degree at 3.9%. Moreover, in 2009, the average median income earned by a high school dropout was \$23,608 per year. In comparison, people who possessed a bachelor's degree earned, on average, \$53,300 per year, and those with professional degrees earned \$79,508 annually.

Yet, only a mere one-third of Missourians aged 25-34 hold an associate's degree or higher (MERIC, 2010). These alarming statistics depict a state that has far to go to ensure all students engage in school, learn at high levels, and are college and career ready

when they graduate from high school. These statistics also provide ample reasons for Missouri to develop a well-trained workforce, ultimately leading to low unemployment, higher-paying jobs, and economic success for Missouri's children.

In 2009, Missouri's academic performance ranked in the middle of the states in the nation. Ranking 27<sup>th</sup> nationally in composite ACT scores, Missouri scores ranged from 26<sup>th</sup> to 33<sup>rd</sup> on the five college preparation measures. Furthermore, approximately 62% of students attending college in Missouri completed degrees in six years or less, ranking 23<sup>rd</sup> in the nation. Of the traditional college students in Missouri, 71% returned to college for their second fall semester, ranking 28<sup>th</sup> out of 50 states.

While Missouri's academic rankings hover around mediocre, for many students the statistics are far worse. Thirty-eight percent of Missouri college students required foundational remedial coursework to handle the rigor of college level curriculum. In addition, only 35% of adults age 18-24 attended college in Missouri, and four of five Missouri high school graduates did not earn a college degree by the time they reached their early 20s, though statistics show how imperative postsecondary education has become for students to be competitive in today's job market and beyond.

Even more sobering is the fact Missouri dropouts numbered almost 10,000 in 2009 (DESE, 2009). Missouri adopted the Common Core State Standards in June of 2010, an adoption that embeds even more depth and rigor within the math standards that students will be expected to master throughout their PK-12 education. While high standards provide an essential foundation for teaching and learning, it takes much more than establishing high standards to impact student achievement and to adequately prepare students for college coursework and post secondary careers.

There is much research that reveals that the effective use of formative assessment can have a significant impact upon student achievement (Ainsworth, 2007; Black & Wiliam, 1998; DuFour, DuFour & Eaker, 2004; Reeves, 2003). However; there is a lack of qualitative research that provides thick, rich, description of how a typical Midwestern United States upper elementary school, with sustained growth in mathematics, implemented and effectively utilizes common formative assessments. A case study would provide a close look at specific strategies and structures that are successful in one school setting, which would provide insight for others with similar settings who seek to implement effective common formative assessment practices.

Furthermore, multiple studies have concluded leadership is significantly, indirectly linked to student achievement, especially through the support leaders provide for teachers as they work and plan in collaborative teams (Seashore-Louis et al., 2010). Less research has described how leaders contribute to the effective use of common formative assessments. Leaders will need insights that can help them to facilitate this process in their own district. This study will add increased knowledge to a “working hypothesis” surrounding the effective use of common assessments, enabling educators to develop a clearer vision for how these valuable practices can benefit both teachers and students.

### *Purpose of the Study*

It is the responsibility and moral obligation of every educator to believe that all students can learn at high levels and to work diligently to ensure that every child reaches his/her academic potential (Buffam, Mattos, and Weber, 2009). To accomplish these

goals, schools must effectively implement the methods and strategies associated with high academic achievement for all students.

The purpose of this research is to study the common formative assessment practices of a progressive upper elementary school in Midwestern United States school district that has shown three consecutive years of marked achievement gains in elementary mathematics scores as measured by the mathematics subtest of the annual, criterion referenced assessment program. This study will also explore the types of leadership that facilitate the use of common formative assessments and will analyze the culture to identify elements, ideals, and beliefs that promote high academic achievement for all students.

This study will identify useful, practical strategies that promote the effective use of assessment and feedback, providing increased support for students who struggle with mathematics. Close analysis of a specific school that utilizes assessments well will provide valuable insight into how the work of collaborative teams is structured as it relates to common formative assessment. Additionally, inquiry into how and what types of leadership contribute to the formative assessment process and identifying specific cultural indicators that promote the academic achievement for all will provide specific examples that can inform the practices of others. The information gleaned from this study has the potential to benefit countless upper elementary students throughout their school years and beyond, helping to close the ever-present achievement gap between students who excel and those who do not. Furthermore, educators will have real-life examples of how one typical, yet high achieving upper elementary school has utilized common formative assessments to support both instruction and learning.

### *Research Questions*

The primary research questions that frame this study are as follows:

1. How does one progressive upper elementary school within a Midwestern United States district utilize common formative assessments in ways that contribute to sustained improvement in math achievement?
2. What type of leadership is evident in the use of common formative assessments that contributes to the mathematics achievement of students within this school?
3. What characteristics of organizational culture contribute to the effective use of common formative assessment in this upper elementary school?

### *Limitations, Assumptions, and Design Controls*

#### *Limitations*

One upper elementary school building in the Midwestern United States was selected for this comprehensive case study. The study involved the detailed analysis of a bounded system; therefore, the limited scope of this inquiry makes it unwise to generalize these findings to all public school settings in Missouri or other states (Merriam, 1998). Moreover, a preponderance of research evidence has revealed that variance in leadership style, professional development opportunities for teachers, and student demographics can certainly impact student achievement (Hattie, 2009), and these characteristics vary considerably between districts. An additional limitation is the researcher's bias toward the responses of study participants due to personal perspective in regard to the value of common formative assessment and its impact upon student achievement.

Six single-category design focus group interviews were conducted with individuals who belong to a specific grade level data team. One limitation of focus group

interviews is that responses shared during a group interview may be impacted by the closeness of peer relationships. Krueger and Casey (2000) cautioned that this closeness can inhibit disclosure, and at times, can foster consensus, rather than rich, diverse opinions. Furthermore, research candidates may be more inclined to share personal perspectives through the anonymity of an open-ended survey rather than in a group setting with their peers present.

### *Assumptions*

The selection of an upper elementary school that consistently utilizes common formative assessments and has demonstrated three years of sustained math achievement was carefully chosen with the assumption that the use (of formative assessments) provides feedback for both teachers and students that allow for adjustments to both instructional strategies and response to the learning task. These timely adjustments to teaching and learning lead to increased student achievement.

The underpinnings of qualitative research are rooted in phenomenology and draw upon an emphasis on the experience and interpretation of the participants in the study. The assumption being there are central themes that are essential to the participant's shared experiences (Merriam, 1998). Prior to the beginning of the study, the researcher, through professional development opportunities and experience, established foundational insights surrounding the use of common formative assessments and its impact upon student achievement. Next, the literature surrounding organizational culture, effective leadership, and assessment was explored to gain a general understanding of how these characteristics impact student achievement. The case study was conducted, and the relationships between these different characteristics were analyzed to discover not only

what was present, but also in what ways the phenomena was presented. Finally, these common experiences were analyzed, compared, and ultimately categorized to identify the quintessence of the phenomenon under study (Merriam, 1998).

An instrumental case study design was utilized to gain in-depth understanding of how common assessments are utilized in a school that has experienced three years of sustained improvement in mathematics achievement. This study explored how and to what degree leadership fostered the use of common formative assessments and ways the culture of the school promoted academic achievement for all. Through the use of personal interviews, focus study groups, an open-ended survey, observations and the analysis of multiple documents, the research discovered implications for those involved, analyzed processes, and sought discoveries which may inform future professional practice or additional research (Merriam, 1998).

### *Design Controls*

Conducting the research investigation in an ethical manner is paramount to ensure the qualitative research study is valid and reliable. In this type of research, the investigator is the major tool utilized for data collection. Therefore, it is important for the researcher to carefully reflect upon and reveal any biases and or assumptions that he/she may bring to the study. Furthermore, qualitative research utilizes many strategies to ensure that findings from the study are internally and externally valid and reliable. This section will identify the strategies utilized in this case study to increase the trustworthiness and reliability of this study.

This study utilized multiple sources of data to confirm emergent findings. By triangulating the data, the research ensured a comprehensive conceptual view of the

phenomena under study. These data sources included focus group interviews, individual interviews, observation field notes, document analysis, and an open-ended survey (Merriam, 1998). Frequent member checks helped to ensure the findings from the research were likely and were in keeping with the beliefs of those involved in the study. In addition, asking professional colleagues to comment on research findings provided additional validation of the research discoveries. Finally, acknowledging researcher bias and theoretical orientations at the beginning of the study further promoted internal validity of the research study (Merriam, 1998).

While the very nature of qualitative research is complex and highly contextual, which makes replication nearly impossible, it is desirable that outsiders overwhelmingly concur the data collected make sense, and the results are meaningful, consistent, and dependable. By using multiple methods of data and being able to provide detailed descriptions of how data were collected and categorized, this study lends itself to increased reliability. Furthermore, the reliability of the study was strengthened because the assumptions and conceptual theory the researcher brought to the study were clarified. Finally, the researcher revealed her role in the group being studied, how participants were selected for the study, and the context in which the data was collected (Merriam, 1998).

Qualitative research limits the ability to generalize findings, and this case study is no exception. However, this study provided rich description as the research questions were fully explored, and the school selected for the research was typical of many schools across the midwestern states in regard to population size, ethnic diversity, and percentage of students qualifying for the free or reduced lunch program (Merriam, 1998). By utilizing a typical school and providing rich descriptions of the case study explored,

others can identify similarities between this study and their unique situation, glean concepts and or ideas that may enlighten or advance their thinking.

### *Definition of Key Terms*

The following terms are relevant to this study and are defined to facilitate the understanding of essential concepts embedded within this study.

*Classroom formative assessment.* Classroom formative assessment is "...a planned process in which assessment-elicited evidence of students' status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning tactics" (Popham, 2008, p. 6).

*Common Core State Standards.* The Common Core State Standards are a set of National Standards that "...are designed to be robust and relevant to the real world, reflecting the knowledge and skills that [American students] need for success in college and careers" (Common Core State Standards, 2010).

*Common formative assessment.* Common formative assessments are formative assessments that have been developed by classroom grade-level or department level teams who teach the same content standards. These assessments are administered on or near the same time across the grade or course level. Assessments are directly linked to power standards and typically follow a pre-post assessment design (Ainsworth & Viegut, 2006).

*Criterion referenced assessment.* A criterion-referenced assessment is a test in which every item is directly linked to a specific academic standard or indicator. The test is designed to determine which of these objectives have been mastered (Ainsworth & Viegut, 2006).

*Data Team.* Ainsworth (2007) uses the term Data Team to describe a team that serves a specific function: “to analyze common formative assessment data that can be used to target and implement instructional strategies aimed at improving student performance between the pre- and post-assessments (p. 88).

*Descriptive feedback.* Descriptive feedback is information provided to teachers or students that is formative in nature, shares progress, and is directly linked with performance criteria (Marzano, 2006).

*Diagnostic Assessment.* A diagnostic assessment is an assessment over objectives that have been taught and is intended to locate learning difficulties or patterns of error. These tests measure specific knowledge, skills, or abilities underlying achievement within a broad content area, providing a basis for remedial instruction (CTB McGraw-Hill, 2011).

*Grade level expectations (GLEs).* Grade level expectations “outline related ideas, concepts, skills and procedures that form the foundation for understanding and learning mathematics. Grade level expectations grades K-8 specify mathematical content that students need to understand deeply and thoroughly for future mathematics learning.” (DESE, 2008, p.1).

*Leadership.* Leadership consists of people or groups of people who provide direction and influence in decision-making (Seashore-Louis, et al., 2010).

*Organizational culture.* Organizational culture consists of those deeply embedded ideals and beliefs that guide people in a common direction. These ideals and beliefs impact the way people communicate and work within the organization (Martin, 2002).

*Organizational climate.* Organizational climate refers to “...how people feel about the organization, the authority systems, and the degree of employee involvement and commitment” (Schein, 2000, p. xxiii).

*Power standards.* Power standards are a subset of prioritized, standards that are determined by narrowing academic learning standards to those that are most essential for students to succeed in life and during the next school year (Ainsworth, 2003).

*Predictive Assessment.* A predictive assessment is an assessment given to forecast a student’s probable performance on another test of similar skills. The validity of a predictive assessment is determined by mathematically relating scores on the two different tests. (CTB McGraw-Hill, 2011).

*Progressive district.* A progressive district is a school district that favors or advocates progress, change, improvement or reform as opposed to wishing to maintain things as they are.

*Professional Learning Community (PLC).* A professional learning community is a collaborative team of teachers who possess shared understandings and common values. Members are action-oriented and engage in collective inquiry to seek continual improvement (DuFour & Eaker, 1998).

*SMART goal.* A SMART goal is a goal that is specific, measurable, attainable, results-oriented, and time-bound (DuFour & Eaker, 1998).

*Standards.* Standards is an abbreviated term for a complete set of course level or grade level academic standards (Ainsworth, 2003).

*Standardized Benchmark Math Assessments.* Standardized benchmark math assessments reflect state academic content standards, are given three times per year, and

measure students' progress through the curriculum and/or material embedded in state assessments. (Coffey, 2012).

*State achievement test.* This term refers to a criterion-referenced, grade-level, summative assessment that is endorsed and mandated by the state department of elementary and secondary education, and is administered by every public school district throughout the state.

*Summative assessment.* Summative assessment is evaluation that takes place at the end of the instructional unit (course, quarter, semester, or school year).

“...[Summative assessments] report the final results of student learning to the teachers, to their students, to students' parents, and to their administrators—typically to support the assignment of letter grades and/or levels of proficiency” (Ainsworth & Viegut, 2006, p. 24).

*Sustained improvement.* For the sake of this study, sustained improvement is two years of consecutive growth in academic achievement scores as measured by the mathematics subtest of a standardized state assessment.

### *Summary*

Chapter One provided the purpose for the study and a rationale as to why this study is significant. This chapter also addressed the limitations of the study, shared how these limitations will be addressed, and included the conceptual foundation for the study. In summary, the purpose of this study was to explore the use of common formative assessments in an upper elementary school that has experienced three years of sustained growth in mathematics achievement.

The review of literature provided extensive information on the culture of effective schools, the role of leadership in the change process, effective leadership as it relates to student achievement, and the value of formative assessment practices, including the value of feedback and student beliefs in regard to motivation and effort. Extensive studies have been conducted over the impact that formative assessment, talented leadership, and school culture have upon student achievement. Conversely, this study was designed to fully explore how an upper elementary school that has experienced sustained growth in mathematics achievement is utilizing common formative assessments, and what cultural and leadership contributions support the common formative assessment process.

Chapter Two provides a review of current, relevant literature regarding organizational culture, effective schools research, leadership as it facilitates change and promotes student achievement, and assessment for student learning. Chapter Three details the research design and methodology utilized for this study and includes: population and sample size selected for the study, data collection and instrumentation, and the data analysis process.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### *Introduction*

In June 2010, Missouri become one of 48 states that participated in the development and adoption of the common core state standards for Mathematics and English Language Arts. The Thomas B. Fordham Institute, a non-profit think-tank that dedicates energy toward advancing educational excellence in America's PK-12 school systems through accountability measures, conducted an analysis of state standards as compared to the new common core state standards. Standards were ranked in two separate categories: "Clarity and Specificity" and "Content and Rigor." Missouri math standards, though well organized and easy to read, were deemed to be neither clear nor specific, earning only 1 on a 3-point scale, with the common core state standards receiving 2 points. Missouri's total score for content and rigor was also scanty, receiving a meager 2 on a 7-point scale, with the common core earning 6 points. The results of the analysis noted while Missouri earned a "D," the common core standards earned a respectable "A-" (Thomas B. Fordham Institute, 2010).

Missouri schools will be accountable for student mastery of the increased content and rigor contained within the common core state standards during the 2013-2014 school year. Yet, utilizing current, far less rigorous Missouri standards (Show-Me Standards), only 44% of Missouri's high school graduates were adequately prepared for college level mathematics in 2009. The National Assessment of Educational Progress (NAEP) reading scores for Missouri eighth graders during the 2008-2009 school year illustrated that a mere 35% of students earned a proficient score, revealing that 65% of eighth grade

students in Missouri were reading at basic or below basic levels. Furthermore, Missouri's high school graduation rate just reached 75% in 2007, with only 55% of black students and 59% of Hispanic students earning a high school diploma (Alliance for Excellence in Education, 2010). These statistics reveal that Missouri schools have far to go to ensure that all students leave high school with the math and English/language skills they need to succeed in college, technical school, or skilled and professional careers. In their book *Pyramid response to intervention: RTI, professional learning communities, and how to respond when kids don't learn*, Buffam, Mattos, and Weber (2009) asserted that never before have the demands on the public educational system been so significant or the consequences for failure so great.

While high-stakes accountability measures are a reality for American schools, a greater concern is the grim reality that students who do not succeed and master essential skills and concepts will have little opportunity for success later in life. A United States Department of Labor survey (MERIC, 2010) predicts Missouri's fastest growing occupations between 2008-2018 are jobs that require education or training beyond high school, with the greatest increase in jobs requiring Associate degrees, Bachelor's degrees, Master's degrees, Doctoral degrees, and Professional degrees. Ultimately, jobs that require college training will be among the highest paid and fastest growing jobs for the next ten years, and likely, beyond. The implications for the education and life preparation for Missouri's students are huge. Adequately preparing students with the essential skills they need to obtain education or training beyond high school is imperative for their earning potential and, ultimately, success in life.

A preponderance of evidence has illustrated that the implementation and use of formative assessments can have a huge impact upon student achievement (Ainsworth & Veigut, 2006; Buffam et al., 2009; Marzano, 2006; Reeves, 2008; Stiggins, 2006, 2008). Formative assessment or assessment for learning (Stiggins, 2008), provides students and teachers timely feedback surrounding instruction, enabling teachers to adjust instruction and students to adjust learning tasks as needed to ensure student mastery of essential skills and concepts. Hattie's (2009) review of research illustrated feedback for teachers surrounding their instruction and feedback to students in regard to their learning tasks are both highly correlated to increased student achievement.

This chapter will provide an overview of organizational culture and how leaders must carefully consider established cultural norms to effectively implement change. Even a positive change, if not effectively inculcated into the culture of the organization, cannot possibly make a difference. In addition, there are many characteristics that are common to schools of excellence and this review of the research will identify many of the contributing factors depicted in schools with high levels of student achievement. Seashore-Louis, Leithwood, and Walstrom et al. (2010) conducted a six-year study of existing research investigating the link, if any, that leadership had upon improving student learning. Their research found that in every single study where an increase in achievement was present, there was the presence of talented leadership. Effective leadership has an indirect yet significant impact upon student achievement. This chapter will provide insights into the types of leadership the research indicates is most significant. Finally, Wiliam (2011), in his recently penned book, *Embedded Formative Assessment*, provided a definition of formative classroom assessment that offers clarity and focus as to

the type of assessment that research indicates has a profound impact upon student learning:

An assessment functions formatively to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have made in the absence of that evidence (p. 43).

Throughout this study, school culture, effective leadership, and math achievement will be explored as they relate to the implementation and use of common formative assessments. The following body of research will provide rich background information and will reveal implications for future practice for educators in regard to assessment for learning.

### *Organizational Culture*

Healthy organizations are able to adapt to meet the changing needs of society; however, implementing sustained change within an organization can be a difficult process. Understanding cultural issues is imperative for organizational leaders as they develop and plan for change. Knowledge of cultural issues enables leadership to build upon what is working within the organization, evolving the culture over time (Martin, 2002; Schein, 1996).

Many theorists describe culture as "...how people feel about the organization, the authority systems, and the degree of employee involvement and commitment" (Schein, 2000, p. xxiii), yet according to Schein, these are actually characteristics of organizational climate. He distinguished climate from culture by referring to climate as

the “soft stuff”—employee perceptions and their level of interest and dedication to the goals and mission of the organization. Climate also describes the relationships that have been established within the school community and the authority structures that are in place. When one enters a school, they experience that school’s unique climate—physical characteristics, prevalent attitudes, degree of formality, and the overall warmth of the environment or lack thereof. However, before leaders can completely understand an organization’s climate, they must delve deeper and discover the values and beliefs that are entrenched in organizational culture (Martin, 2002; Schein, 1996).

Culture refers to the ideals and beliefs that impact the way people communicate and work within the organization. Martin (2002) shared three levels of cultural depth: (a) obvious, visible artifacts, which can be seen and felt when spending time in the organization, (b) shared values or common, acknowledged beliefs in which members of the organization hold each other accountable, and (c) deep, unconscious assumptions, the underlying foundational beliefs held by members within the organization. Every school has a unique culture that guides people in a common direction.

Whether a culture is weak and dysfunctional, strong and functional, a combination of both or something in between, culture provides a set of standards that identify the values and work that people within the organization maintain. Culture also provides purpose and meaning for teachers, administrators, students, and their families. Strong, functional cultures are nurtured and developed intentionally by leadership and members within the school community (Martin, 2002; Schein, 1996; Sergiovanni, 1984). Frequently leaders fail to carefully consider the culture of their schools until cultural boundaries have been crossed, often times resulting in conflict and unrest. Therefore, at

times, culture is managed during times of crisis rather than through reflective, collaborative, consideration.

Martin (2002) offered seven specific indicators that reveal the existing culture within an organization and included: rituals, organizational stories and scripts, jargon, humor, physical arrangements, formal and informal practices, and content themes. Some of these areas may seem obvious; however, the more time a leader spends within an organization, the more obvious many of these cultural indicators become. Understanding an organization's existing culture provides insights that can facilitate the change process. As leaders learn about the established culture, they can more fully understand how deeply engrained, underlying assumptions impact current strategies and structures. Realistically, unless organizational culture is recognized and handled effectively, it is much more likely to change the leader than to be influenced by the leader. Experienced leaders recognize how difficult it can be to drastically change an existing culture and understand that it is often better to guide and develop culture over time. By building upon a school's existing strengths, the gradual adoption of new cultural norms and beliefs can evolve; replacing previously held beliefs, rituals, values, and assumptions (Schein, 2000; Yukl, 2006).

### *Reculture*

Change in educational organizations is often times on the surface level and structural in nature. In many cases, substantial change efforts will more likely succeed and be sustained than smaller initiatives, which can be disregarded and forgotten, and do not require change across all stakeholders (Fullan, 2002). However, significant change often requires sizeable solutions—many of which are not easy to carry out or even necessarily known. This is a process that cannot be mandated—it requires the skill,

motivation, and dedication of those who must alter and adjust their practices. A necessary first step in the change process is creating a sense of urgency for change by sharing real reasons that change will benefit the organization. By examining data, cultural indicators, and current realities, leaders can provide a meaningful rationale for change, which will likely serve as a motivator for others (Kotter, 1995; Mai, 2004).

Even when indicators point to a strong need for change, resistance to change can be the reason why sustained, meaningful change does not take place. Many issues can hinder the change process. Sometimes members within an organization serve their own best interests rather than recognizing what is best for the entire organization. This can often be a subtle resistance that takes place covertly. Furthermore, misunderstanding the purpose for change and the resulting consequences can impede the change process (Kotter & Schlessinger, 2008).

At times there is emotional turmoil associated with change, even when the change makes sense and is perceived as positive (Fullan, 2002; Yukl, 2006). People sometimes resist change because they fear they may lose something of value. Furthermore, when people do not fully understand the consequences associated with change, or they assess the situation differently than those promoting the change, a lack of trust can develop (Kotter & Schlesinger, 2008; Yukl, 2006). While many things can hinder change, its implementation is inevitable if schools are to develop new ideas, skills, and practices that increase the ability for individuals and organizations to bring about improvements in student achievement.

Educating and communicating information about change strategies beforehand and sharing reasons why the change will bring about positive improvements, help change

leaders convey the need for change. Early communication also establishes a sense of urgency and provides the motivation to implement initial steps (Kotter, 1995). Some resistance is inevitable with most change initiatives—Fullan (2002) speculated if resistance is altogether absent, there might not be any meaningful change taking place. Sometimes leaders mistake resistance for problems with the implementation process. Identifying a particular position or action as one of resistance, redirects attention away from the real problems of implementation, such as a lack of skill, resources, or unclear objectives. Successful leaders welcome resisters as they often have valid concerns that may need to be addressed. By addressing concerns, leaders increase understanding and possibly head off a problem early in the change process. Furthermore, by involving resisters with some aspect of the implementation process, leaders not only ease apprehension, but can also increase ownership (Fullan, 2002; Fullan & Miles, 1992).

Changing what people value and how they work together will be reflected in the school's culture. Schlecty (2000) and Fullan and Miles (1992) advised leaders to examine a system's culture for understanding, while simultaneously utilizing a new language to set forth a new vision. A change initiative without a clear, easily communicated vision can often digress into a series of exhausting and vague projects that not only fail to move goals forward but can also have a negative impact upon implementing future initiatives (Kotter, 1995; Yukl, 2006). A new language educates, engages others, and helps to shift the current belief system toward the future. When schools transition from the familiar to the new it also creates a phase of intense personal and organizational problem solving and learning. Individuals must release previously held beliefs and practices and commit to new ideas and behaviors. This transition requires support, understanding, and the

recognition that apprehension, difficulties, and uncertainty are a very natural part of a successful change process (Fullan & Miles, 1992).

Kotter (1995) cautioned change must be embedded into the existing culture if it is going to sustain after the strong focus for change subsides. By communicating how new behaviors, attitudes, and routines have improved performance, organizational leaders share reasons for people to value change and to more deeply commit to the change process. Finally, when top management moves on, it is imperative for new leadership to be active champions for the change initiative if the change is to be sustained.

### *Schools of Excellence*

Schools that have developed a culture that promotes achievement for all students share several common characteristics. First and foremost, these schools displayed a strong, continual focus upon learning and achievement (Fullan, 2002; Reeves, 2009; Schmoker, 2006). Secondly, the educators who worked within these schools shared a collective, moral purpose that focused upon the learning needs of every student and the belief that all students can learn at high levels (Buffam, Mattos, & Weber, 2009; Edmonds, 1982; Fullan, 1993). Finally, these schools developed a culture of collaboration, working together to support both teachers and students in their quest to ensure that all students achieve and succeed (Bruffee, 1999; Buffam et al.; Fullan, 2008; Schmoker, 2006).

*Focus on student achievement.* An overwhelming body of research reveals highly successful schools have developed strong cultures for learning and high levels of achievement (Danielson, 2002; Edmonds, 1982; Fullan, 2002; Reeves, 2009; Schmoker, 2006; Sergiovanni, 1984; Teddlie et al., 1989). One study identified schools whose

demographics depict more than 90% of students eligible for free/reduced lunches and 90% of students were ethnic minorities; yet, more than 90% of students attending these schools were achieving high academic standards on independently conducted tests of academic achievement. Researchers sought to identify common characteristics of these high achieving schools and found each school possessed cultures that promoted an intense focus upon student achievement. This focus could be seen in the rituals, informal and formal practices, and physical spaces within these buildings (Reeves, 2003, 2005).

Many cultural and symbolic aspects are present in schools of excellence, but cultural indicators may or may not be present in schools labeled as merely competent (Sergiovanni, 1984). A culture that promotes the achievement of all students must employ teachers whose fundamental beliefs recognize that all students can learn. A teacher's basic beliefs and assumptions, whether implicitly or explicitly revealed, underpin the core philosophy and culture that is established and experienced by students and others within the learning environment. Allowing teachers the time to reflect upon their personal beliefs and begin to assimilate new ideas is an essential beginning step in any school improvement initiative (McCombs & Whisler, 1997).

*A collective and moral purpose.* Fullan (1993) conceived teaching, at its very core, is a moral profession: "Scratch a good teacher and you will find a moral purpose" (p. 2). Moral purpose is most often what compels teachers to become advocates for improvements within their schools and classrooms (Fullan et al., 2004; Buffam et al., 2009). People who choose teaching as a career path are likely motivated, in part, by moral reasons. One study surveyed a random sample of 20% of 1,100 student teachers

who were asked why they chose to enter the teaching profession. The overwhelming response was “to make a difference in the lives of students” (Stiegelbauer, 1992).

School cultures that are defined by a strong moral purpose cultivate educators who seek to bring about improvements to the teaching profession and, ultimately, enhance student learning. Cultural change leaders possess a deep sense of moral purpose—quite simply, they strive to make a difference in the lives of students. These types of leaders believe it is their moral obligation to close the achievement gap between high performing and low performing schools. They also believe all students should experience rigorous coursework and master essential skills and concepts. This strong compulsion to close the achievement gap for all students is often the catalyst for change, creating a sense of urgency, which is a first step in school reform.

Adults who work in exemplary schools believe every child can learn, and they are concerned with the academic growth of all students (Fullan, 2001; Fullan 2002; Fullan et al. 2004; Edmonds, 1982; Hargreaves & Fink, 2003; Kotter, 1995). Edmonds (1982) contended that these foundational beliefs address issues of social justice by shaping expectations for student learning and the decision making process: “...to be effective, a school need not bring all students to identical levels of mastery, but it must bring an equal percentage of its highest and lowest social classes to minimum mastery” (p. 4). Teaching to the middle is no longer an acceptable practice, and educational leaders will not be perceived as successful if the only students who meet academic expectations are the advanced or even average students.

Differentiating instruction to better meet the needs of all children becomes essential if schools are to ensure that all children learn at high levels. Buffam et al. (2009)

put forward that students who struggle should receive academic support with as much urgency as though they were having a medical emergency. These authors used the analogy of applying “Learning CPR” to students at-risk of failing by offering instructional supports that are “.... urgent, directive, timely, targeted, systematic, and administered by trained professionals” (p. 61). Furthermore, having a strong moral purpose means treating all people with respect and having a natural propensity toward improving the school environment (Chenoweth, 2010; Fullan, 2002).

Much research has revealed there is a distinguishable difference between competence and excellence in schooling. In excellent schools, people display a sense of purpose and rally around a common goal—work has meaning for all teachers and students, which fosters enthusiasm for both teaching and learning (Fullan, Bertani, & Quinn, 2004; Hallinger & Murphy, 1986; Sergiovanni, 1984). Sergiovanni (1984) asserted, “Excellent schools...exceed the expectations necessary to be considered satisfactory. Students in such schools accomplish far more and teachers work much harder than can ordinarily be expected” (p. 6).

Schools of excellence identify clear goals and high expectations, which focus upon the responsibilities schools consider most important. These goals are often broadly defined through a formal mission statement. Hallinger and Murphy (1986) defined the school mission as “.... explicitly defined school goals that focus staff attention and school resources on specific areas of learning” (p. 331). In these environments, all students learn the big ideas and skills needed to extend their learning and to provide the foundation needed to ensure proficiency in the economic, political, social, and intellectual lives within their communities. In addition to a working mission statement, schools that are

successfully improving have effectively outlined and communicated a vision as to what an “ideal” for their organization would look like. A clear vision provides purpose and helps to direct change efforts (Kotter, 1995; Mai, 2004).

The fundamental purpose of education is to make a difference in the lives of young people, to prepare them for a life where they can make contributions to society, and to accomplish a sense of purpose. A wholesome school possesses teachers and administrators who continually revisit their own purpose and seek feedback to determine how well things are going, making adjustments if needed. Hargreaves and Fullan (1998) challenged educators to go deeper and clarify their purpose, and cautioned, “Not any purpose will do. Schools should reach for higher educational purposes which truly are moral in transforming children’s lives and building a better world for the generations of the future” (p. 30).

*A collaborative culture.* While the school mission and vision statements outline collaborative goals, the organizational methods and instructional strategies teachers utilize to accomplish these goals are typically very purposeful and specific to grade level or content area teams and/or individual teachers. Thus, many experts have posited that effective schools are a balance of both tightly and loosely coupled systems (Fullan et al., 2004; Sergiovanni, 1984). While schools within a district may share a collective commitment to specific goals (tightly coupled), the stakeholders within the school also maintain the autonomy to pursue solutions to these goals in ways they believe are most successful, resulting in a loosely coupled system (Sergiovanni, 1984).

It is common practice for teachers who are employed in schools of excellence to engage in ongoing, specific discussions that surround instructional practice. In these

schools, teachers frequently plan lessons together, analyze data, and research instructional strategies and materials (Bruffee, 1999; Buffam et al., 2009). Fullan (2008) argued to gain unity and concentration within a rather fragmented environment is to “connect peers with purpose” (p. 41) and that focused peer interaction is the key to maintaining an organization that is simultaneously loose-tight—tight enough to provide shared focus and purpose, yet loose enough to encourage shared decision making and active participation from all teachers.

Discussions that surround effective instructional and programmatic practices provide teachers with a point of comparison. Without these collaborative conversations, Schmoker (2006) believed teachers in isolation never have to confront the reality that their colleagues may be more effective. Often times what works in individual classrooms may be what is merely convenient for each teacher because instructional decisions are made in isolation and are shielded from any external inquiry. Conversely, when teachers have time to collaborate together, they can collectively plan and channel their efforts toward a clear, commonly shared purpose for learning and can glean the best instructional strategies utilized among the group. These collaborative teams are commonly referred to as professional learning communities (DuFour & Eaker, 1998).

Schools with effective professional learning communities share responsibility for student learning through a collaborative, shared vision and work together to agree on the characteristics of high quality teaching and learning. When teachers work in collaborative teams, there is lateral accountability across the team, yet teachers also receive guidance and support as they work together to reinforce student achievement. This balance of

pairing pressure with support is the necessary combination for school improvement (DuFour, DuFour, Eaker, & Karnahek, 2004; Fullan, 2000; Supovitz, 2002).

Before people commit to change, they must acquire new information, which, through social processes, becomes valuable knowledge (Fullan, 2001; Nonaka & Takeuchi, 1995). Schools are not likely to improve without increasing the skills and abilities of the teachers who work within them (William, 2011). Ultimately, change is both an organizational and an individual process; therefore, change leaders must find the right blend of organizational and individual processes that will contribute to succeed in a specific context. Furthermore, viewing change as both individual and organizational can help to identify the steps necessary for successful professional development (Gusky, 1994). The most successful professional development programs are those that provide regular opportunities for participants to share perspectives and seek solutions to common problems in an atmosphere of collegiality and professional respect (Gusky, 1994; Schmoker, 2006).

In summary, developing a culture of learning and achievement is at the heart of school improvement initiatives and often requires changing the existing culture. Implementing change is difficult and requires strong, effective leadership (Schein, 1996; Sergiovanni, 1984; Martin, 2002). These cultural change leaders have a deep sense of moral purpose, seeking to make a difference in the lives of the students they serve. These leaders seek to close the achievement gap between students who easily learn and those who do not. Effective leaders work collaboratively with the learning community to set the vision, mission, values, and goals that will ultimately define the work necessary to

impact student achievement for all (DuFour & Eaker, 1998; Fullan, 2002; Kotter, 1995; Mai, 2004; Schmoker, 2006).

### *Leadership*

Research surrounding educational leadership has been used to identify specific characteristics or traits that were associated with effective leadership (Gardner, 2002; Yukl, 2006). Current research indicates leadership cannot be limited to a defined set of characteristics; rather it is a multidimensional process, which occurs in a wide variety of settings. Highly effective leaders think beyond the present and look to the future, emphasizing vision, values, and goals (Fullan, 2002; Gardner, 2002; Yukl, 2006). In many cases, the context of leadership affects how leaders make decisions and influence change, with effective leaders recognizing many dynamics of the group to be led, including the maturity, education, and motivation of group members, and the size and morale of the group (Gardner, 2002; Leithwood & Duke, 1999; Yukl, 2006).

Seashore-Louis et al. (2010) maintained that leaders, at the very least, serve two distinct purposes: "Whatever else leaders do, they provide direction and exercise influence" (p. 9). These two purposes play out in many different environments, and how they are utilized may be linked to many models of leadership. Influence in leadership is the practice of an individual or team modeling or persuading a group to seek out the goals, which are shared by the leader and his followers (Gardner, 2002). Therefore, leadership and power go hand-in-hand as leaders influence the behaviors of others.

The true goal of leadership is the continual improvement of the organization. Hackman and Johnson (2000) contended that power must seek to attain the goals of the group to truly be classified as effective leadership. Often top-down leadership creates

feelings of powerlessness. By sharing power, leaders encouraged cooperation, increased employee motivation and satisfaction, promoted individual growth, and avoided solving problems from the same perspective. Furthermore, higher performing schools indicated greater influence from all stakeholders than their lower-performing counterparts. Student achievement was higher in schools where teachers shared leadership and perceived there was greater parent involvement (Seashore-Louis, et al., 2010). By establishing a positive, purposeful direction for the organization and working collaboratively with others to attain organizational goals, leaders provide both direction and influence.

Sustaining leadership over time is imperative for implementing the school's vision and, at times, the restructuring that leads to increased student achievement (Hargreaves & Fink, 2003). Furthermore, leaders must be able to promote and foster renewal in order to meet the ever-changing needs of both students and teachers within the school. Growth and renewal is a natural part of every excellent school and requires talented leadership to facilitate positive change (Gardner, 2002; Yukl, 2006). By distributing leadership and empowering others, building leaders can promote the ownership, focus, and direction that are pivotal for reaching building goals. Furthermore, many studies have linked the instructional leadership style to having a significant indirect impact upon student achievement (Seashore-Louie et. al., 2010). These ideas surrounding leadership provide valuable insights into the role of leadership as it relates to student achievement.

### *Leadership Succession*

One factor that can strongly hinder effective leadership is the frequency of leadership succession. One recent study analyzed data from 80 schools, providing data on

the number of principals in each school over the past 10 years. “On average, schools experience fairly rapid principal turnover: about one new principal every three to four years” (Seashore-Louis et al., 2010, p. 165). Three decades of leadership studies revealed that leadership succession is burdened with anxiety, a sense of abandonment, and mixed feelings of relief or loss (Hargreaves & Fink, 2003, Seashore-Louis et al., 2010). Furthermore, rapid principal turnover can be attributed to fairly small but significant variations in student achievement across schools (Seashore-Louis et al., 2010). In many cases, the change that leaders seek takes years to accomplish, and while they may see little fruits from their labors, their successors may benefit from the groundwork that has been laid, paving the way for eventual improvements (Gardner, 2002). However, the reality of leadership succession reveals that when transformational, optimistic leaders move on, the leader who follows may lack the vision or knowledge of current initiatives for improvements to maintain their previous momentum.

Sustainable leadership requires schools to plan for leadership succession by keeping current administration in place and grooming successors from within to carryout the vision once the current leader moves on. Leadership that is concerned with sustained change distributes leadership across the organization, widening the circle of influence. It is a shared responsibility that does not overly exhaust human or financial resources, and cares for, and avoids, exerting negative damage on the surrounding educational and community environment (Hargreaves & Fink, 2003). Furthermore, by encouraging networks, which lead and learn from each other, leaders build the capacity for all stakeholders to continually seek out the diverse, best practices that are readily available but often utilized in isolation. By building an educational environment of organizational

diversity, sustainable leadership promotes the distribution of good ideas and successful practices in communities of shared learning and development (Seashore-Louis et al., 2010). When schools foster practices that sustain leadership within the building, schools can greatly diminish the negative effects that may result from a change in formal leadership (Fullan, 2001; Fullan, 2002; Hargreaves & Fink, 2003; Seashore-Louis et al., 2010).

### *Renewal Leaders*

School improvement requires continual renewal if leaders are going to meet the ever-changing needs of the organization (Yukl, 2006). Meaningful reform must be accomplished at the school level and requires a change in culture. This renewal process can be challenging. At times, people have an intentional interest in maintaining the status quo; however, more often it is maintained simply because it is how things have routinely been done, and people have a tendency to simply go with the flow. Strong leaders are aware of natural tendencies to continue familiar practices (Fullan, 2002). Asking the right questions can help leaders and others to reflect upon and evaluate current practices to ascertain the impact these practices have upon the goals of the organization. If such dialogue does not occur, it is very difficult to change the status quo (Mai, 2004). Renewal leaders are keenly aware that many factors impact the organization and that these factors are ever changing (Gardner, 2002). Rarely is school reform the result of a superintendent or principal who rides in to save the day. In the few instances that a solitary leader has brought significant change, changes often go to the wayside upon their departure (Copeland, 2003; Hargreaves & Fink, 2003). The issues facing leadership today are complex and ever changing--changing so quickly that a leader, no matter how

talented, cannot single-handedly solve the problems facing the organization (Gardner, 2002). Sharing leadership across the organization through leadership teams is an effective way to distribute leadership responsibility and to foster buy in from stakeholders.

Multiple leadership studies reveal that principal leadership largely impacts student achievement by strengthening working relationships through professional community—teachers collaborating together to improve instructional practices which result in increased student learning (Besser et al., 2010; DuFour & Eaker, 1998; Gardner, 2002; Seashore-Louis et.al., 2010). Professional communities encourage instructional practices that are strongly linked to increased student achievement. These collaborative teams are committed to ongoing improvement surrounding teaching and learning, providing support for both students and teachers alike. Much research reports schools that promote professional communities foster a school climate that encourages higher levels of achievement than that which is fostered by the individual classroom environment (DuFour & Eaker, 1998; Schmoker, 2006; Seashore-Louis et al., 2010).

Effective leaders must recognize growth and renewal are natural cycles for organizations that strive to meet the ever-shifting needs of all stakeholders. These renewal leaders commit to using best practices, yet continually evaluate the effectiveness of current practices, giving up ineffective ones and inculcating practices that research deems most effective (Mai, 2004, Reeves, 2008). When leaders facilitate rich discussions surrounding best practices, they invite people within the organization to share their opinions and ideas. Through shared conversations, knowledge can be distributed across the organization (Mai, 2004; Nonaka & Takeuchi, 1995; Reeves, 2008).

Successful school leadership ultimately requires a deep commitment toward a collective goal of making school work for all, both teachers and students. This commitment requires strong consensus around the significant challenges that face the organization. Continual inquiry surrounding high expectations for all students and best instructional practice builds instructional capacity (Copeland, 2003; Reeves, 2008). Valuable leaders understand the importance of these conversations, build time into meeting agendas for rich dialogue, and reward others for sharing and extending ideas. By embedding time within the workday for consistent collaboration and creating spaces that are conducive to productive talk, leaders encourage the exchange of knowledge and increase instructional capacity (Bruffee, 1999; Nonaka & Takeuchi, 1995). When practices are no longer effective, they encourage others to take risks to implement new strategies, sharing the belief that learning from mistakes is as important as learning from success (Mai, 2004).

### *Distributed Leadership*

A six-year meta-analysis of research conducted by Seashore-Louis et al. (2010) indicated leadership is second only to classroom instruction in its impact upon student achievement. Throughout this extensive research, every study that revealed a significant increase in student achievement also identified the presence of talented leadership. Higher performing schools claimed greater influence from all stakeholders than their lower-performing counter parts.

Current research has found collective leadership, or leadership that involves all stakeholders including parents, teachers, students, and administrators, has a much greater impact upon student achievement than individual leadership (Copeland, 2003; Fullan,

2001; Seashore-Louis et al., 2010). However, leadership distribution, without purposeful planning and diversity of leadership patterns, will likely have little impact upon student achievement. One way to provide purpose is to tie leadership from teacher teams to a specific initiative or goal within the team. This distributed leadership will not diminish the level of influence shared by building leadership but will empower others (Seashore-Louis et al., 2010). By fostering the building principal's understanding of shared leadership and encouraging them to coordinate leadership efforts within the scope of building goals and stakeholder teams is imperative for focus, direction, and goal attainment (Seashore-Louis et al., 2010).

Mia (2004) identified two critical roles effective leaders assume in order to foster the purposeful distribution of leadership. First, leaders must skillfully encourage rich dialogue that fosters critical discussion and debate without fear of disagreement, so that the best ideas can be considered. Now, more than ever, teachers and administrators need to have meaningful discussions about what is working and what is not working in their schools. Effective leaders understand the importance of these conversations, build time into meeting agendas for rich discussions, and reward others for sharing and extending ideas. Second, effective leaders are continual learners, keeping abreast of evidence-based research and best practice.

Vast arrays of different groups influence decision making in schools, which contributes to collective leadership. Research indicated schools that practice collective leadership maintain higher achievement. This may be due, in part, because as a result, they have a much broader knowledge base for planning and problem solving (Seashore-Louis et al., 2010). While many stakeholders may influence decision-making, teachers

still tend to rate traditional forms of leadership as much more influential than non-traditional sources. Furthermore, teacher leadership roles that are formalized have a greater influence than non-formal roles (Seashore-Louis et al.).

Multiple studies conclude principals and district leaders continue to maintain high levels of influence, even when influence is extended to other stakeholders. Collective leadership plays a strong role in teacher work setting and teacher motivation, which results in modest, but significant, indirect effects on student achievement. Principals have the greatest impact on continuing to motivate teachers and examine teacher work settings to ensure that they align with best instructional practices and less influence on the knowledge and skills teachers utilize in the classroom (Seashore-Louis et al., 2010).

#### *Transformational and Instructional Leadership*

Hattie's (2009) research conducted a synthesis of 11 meta-analyses including 490 studies of the effects principals have on student achievement. Two major types of leadership, Transformational Leadership and Instructional Leadership were most prevalent. Transformational Leadership referred to "those principals who engage with their teaching staff in ways that inspire them to new levels of energy, commitment, and moral purpose such that they work collaboratively to overcome challenges and reach ambitious goals" (p. 83). Instructional Leadership was identified as "principals who focus primarily on creating a learning climate free of disruption, a system of clear teaching objectives, and high teacher expectations for teachers and students" (p. 83). The Instructional Leadership model was developed specifically for school and district-level settings. This model focuses upon classroom practices, yet has been difficult to define as

different researchers have included a wide variety of leadership practices when defining Instructional Leadership.

Traditionally, Instructional Leadership has included those behaviors that involve supervising instructional practices and providing teachers with useful, relevant feedback. Leithwood and Duke (1999) defined Instructional Leadership as typically focusing “...on the behaviors of teachers as they engage in activities directly affecting the growth of students” (p. 47); however, they conceded that many authors have varying definitions of instructional leadership. The models most fully explored included three broad categories: developing a school mission, supervising instructional practices, and fostering a positive school culture.

Murphy's (1990) review of literature on Instructional Leadership discovered that principals leading in schools where quality teaching and learning took place practiced Instructional Leadership that focused on student and teacher learning. These leaders were knowledgeable of current curriculum, instruction, and assessment practices and monitored classrooms for evidence of effective implementation. They fostered a positive learning climate and created structures that promoted a positive work environment.

Of these two types of leadership, Transformational and Instructional, principals who focus upon instruction and student achievement have a much higher impact upon student achievement. However, few principals have the time or knowledge base to be instructional experts, and the definition of Instructional Leadership has evolved to include structural and cultural responsibilities that support classroom instruction and encourage increased student achievement (Seashore-Louis et al., 2010). Instructional leaders are aware of the goals that need to be addressed to increase student achievement and are

willing to challenge current practices to seek more effective ones. These leaders have knowledge of current curriculum, instruction, and assessment practices and actively monitor the effectiveness of instructional practices. Specific practices include providing effective structures, time, professional development, and resources that support teachers as they work with colleagues to plan instruction and problem-solve.

Seashore-Louis et al. (2010) synthesis of research showed that principals and teachers are in agreement that the most significant Instructional Leadership practices in supporting instruction and student achievement are “focusing the school on goals and expectations for student achievement, keeping track of teachers' professional development needs, and creating structures and opportunities for teachers to collaborate” (p. 66). Furthermore, this research also revealed effective Instructional Leadership encompasses much more than merely monitoring classroom instruction and providing feedback.

Building leaders must be keenly aware of the greater context of instructional practice, providing the academic structures, support, and visioning necessary to promote increased learning for all students. Seashore-Louis et al. (2010) defined these complementary influences as “instructional climate” or “instructional action.” Instructional climate involves having knowledge of best practice, identifying a vision for high student achievement, and providing teachers with the professional development and on-going learning that empowers all teachers to utilize best practice. Instructional actions provide specific learning opportunities and support for individual teachers. High performing PK-12 schools report a wide use of instructional climate; however, instructional actions were less prevalent at the high school level.

One study analyzed 3,983 survey responses from 127 schools and found principals scoring high on Instructional Leadership are distinctly aware of the teaching and learning that is happening in their schools. These leaders observe classrooms often and provide constant feedback to teachers surrounding the teaching and learning they observed during classroom visits. Principals who scored low on Instructional Leadership usually did not visit the classroom for instructional purposes and seldom gave immediate feedback to teachers about instructional practices (Seashore-Louis, et al., 2010).

Strong Instructional Leaders have established a clear vision for their school and have the communication skills and leadership ability to encourage growth and learning that helps teachers attain the instructional goals set forth by the building (Reeves, 2011; Seashore-Louis et al., 2010). Principals scoring high on Instructional Leadership also established a vision, however in many cases, especially at the middle and high school level, principals failed to follow-up with individual teachers to ensure the vision for high-quality teaching and learning was carried out in the classroom. Elementary schools as a whole report much higher levels of Instructional Leadership when compared to secondary schools.

A synthesis of research by Seashore-Louis et al. (2010) found that both Shared Leadership and Instructional Leadership appeared to be influential upon student achievement, but their influence is indirectly related through the collaborative discussions, shared work, and collective responsibility teachers share through professional community. Research from these studies suggests Shared and Instructional Leadership are complementary forms of leadership and most effective when utilized together. In their study of principal effectiveness and school performance, Marks and

Printy (2003) found where Shared Instructional Leadership was lacking so was Transformational Leadership. While Transformational Leadership often provides the catalyst for change, Instructional Leadership does not just happen without purposeful planning and implementation. These authors coined the term “Integrated Leadership,” the marriage of both Transformational Leadership and Shared Instructional Leadership, and claimed both types of leadership are necessary.

The review of research conducted by Seashore-Louis et al. (2010) showed much evidence that effective leadership provides the direction and influence necessary to positively impact student achievement. This leadership is often distributed throughout the learning community, which encourages ownership and sustainability among stakeholders (Hargreaves & Fink, 2003). One of the many different types of leadership, Instructional Leadership has the greatest impact upon student achievement. Instructional Leadership practices that contribute to increased achievement the most support instruction and student achievement by providing the resources, structures, and the collaborative time teachers need to plan, problem-solve, and implement research based strategies (Seashore-Louis et al., 2010). One strategy that multiple studies have shown makes a huge impact upon student achievement is the consistent, effective use of formative assessment (Black & Wiliam, 1998; Marzano, 2006; Popham, 2008; Stiggins, 2008).

#### *Assessment*

Many different programs, strategies, and structures have been implemented or reworked in public schools to increase student achievement and to close the gap between students who are learning and those who are not. Decreasing class size, implementing technology, and adjusting the schedule are but a few; however none of these can even

come close to having the positive impact upon student achievement as that of a highly effective classroom teacher (Marzano, 2006; Wiliam, 2007). Research has indicated effective teachers are equally effective across all achievement levels, just as ineffective teachers are ineffective with all learners in their classrooms. In order for teachers to be highly effective, they must be equipped with the strategies and methods that enable them to provide clear, engaging instruction that motivates students to work hard at the learning tasks before them (Marzano, 2006). Black and Wiliam's (1998) review of over 250 studies indicated the use of formative classroom assessments are one of the most powerful instructional strategies teachers can use to increase student achievement. These gains are considered among the greatest interventions reported, and, if fully implemented in classrooms across the nation, could boost United States math scores into the top five in the world, just behind Singapore, Korea, Japan, and Hong Kong. Furthermore, according to this review of the research, lower achieving students make the most significant gains, accelerating learning and closing the achievement gap.

The widespread belief that schools should be held accountable and that assessment provides a significant measure of accountability has been historically evident since the 1930s with the implementation of the SAT college admissions test. The 1950s and 1960s brought norm-referenced, standardized testing programs to schools to measure district accountability. The 1970s birthed the state assessment program, beginning the decade with three and ending with 40 state assessment programs. Today, virtually every state has its own assessment program. In the 1970s and 1980s, national assessments were implemented, and the 1980s and 1990s brought international testing and the scrutiny that

American students were no longer as competitive and that American must raise its standards or face certain social and economic repercussions (Stiggins, 1999).

Presently, assessment serves multiple purposes. Assessments provide information about school accountability, program effectiveness, and can help teachers, students, and at times, parents, make instructional decisions. Effective assessment systems give a wide variety of decision-makers multiple types of information, depending on the specific context. Assessments selected will depend upon who will be using the data and what type of information they will need to make good decisions (Stiggins & Duke, 2008).

Unless the ever-present achievement gap between students who master essential standards and those who do not is closed, American society as a whole will not be able to function economically or socially in the future. Assessment practices across America must change if schools are ever going to meet the goal of bringing all students to mastery (Stiggins, 2008). Current educational consultants including Stiggins (2008), Popham (2008), and Reeves (2006), call for a new approach to assessment. While the standardized, end of year achievement tests American schools typically utilize provide valuable accountability data, these assessments are limited in their scope and alone cannot help all students reach mastery of essential learning standards.

Another type of assessment, benchmark or interim assessments, provide information surrounding instructional improvement that help teacher teams, school leaders, and curriculum personnel identify standards that groups of students are not mastering. While data from these intermittent benchmark assessments provide useful information surrounding curriculum, instruction, and classroom assessment, it is most often not specific or timely enough to provide individual student support (Stiggins &

Duke, 2008). Assessment that is truly formative in nature occurs at the classroom level and is administered by classroom teachers, which is contrary to many of the commercial testing vendors' claims that the quarterly benchmark assessments they sell for a handsome sum are "formative." Moreover, Popham (2008) asserted that whether benchmark assessments are state developed, district developed or purchased from a vendor, "...there is currently no research evidence supporting the hypothesis that this kind of periodic assessment is educationally beneficial" (p. 10).

It is nearly impossible to close the achievement gap without formative classroom assessments that inform both students' and teachers' *daily* work. By balancing the use of summative assessments with formative classroom assessments, educators learn valuable information about their instruction and the thinking of the learner. Assessment can be viewed as an evaluation of student performance or as a tool that provides rich, timely, information about a student's progress. Both types of assessment have a purpose, yet only formative assessments will provide the information that will inform both the teacher and learner about the next learning steps (Stiggins, 1999, 2006, 2008).

### *Formative Assessment*

The term "Formative Assessment" is derived from Scriven's work surrounding educational program evaluation (Scriven, 1967). Scriven used the term "Formative Evaluation" to describe the evaluation of an educational program while it was still early in process and could be influenced by change. Conversely "Summative Evaluation" was a term used to describe the evaluation of a fully evolved and mature program to determine if it should be continued or concluded (Popham, 2008). End of the year summative assessments simply do not provide the information needed to impact student

learning. These assessments are too broad and too late, occurring after instruction has already taken place (Stiggins, 2008). Furthermore, standardized assessment scores and their comparisons between schools have been utilized to intimidate struggling schools and learners. This has a negative impact for both (Stiggins, 2007).

The use of Formative Assessments enable teachers to access the most current available information in relation to their teaching and to adjust instruction to better meet the needs of all learners within the classroom. In addition, the assessment evidence that teachers provide enables student to make decisions about whether or not they should adjust their own learning strategies based upon teacher suggested adjustments. Popham (2008) explained “...we continue to see Formative Assessment as a way to improve the caliber of still-underway instructional activities and summative assessment as a way to determine the effectiveness of already-completed instructional activities” (p. 4).

Formative Classroom Assessments provide detailed information about individual student progress. These assessments help both teachers and students determine the next step in learning. Popham (2008) asserted, “Formative assessment is a planned process in which assessment-elicited evidence of students’ status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning tactics” (p. 112). If teachers make poor, uninformed, instructional decisions, no benchmark or summative assessment will recover the time or instructional strategies that should have been targeted to meet individual student learning needs; whereas formative assessment data can provide a continuous picture of each student’s progress toward mastering essential standards. This constant monitoring enables teachers to implement

interventions, provide students additional time with the concept, and increases the likelihood students will find mastery (Stiggins & Duke, 2008).

Stiggins and Chappuis (2005) maintained the preponderance of the evidence concludes the effective use of formative classroom assessments can promote gains in achievement and reduce the achievement gap if the following conditions occur: the purpose and expectations surrounding assessment are very clear, (b) assessments accurately measure student achievement, (c) assessments provide truthful, on-going feedback surrounding improvement in their work versus occasional, critical feedback, and (d) teachers involve students in the classroom assessment process. These four conditions ensure that classroom assessment practices are indeed formative and effective and are of utmost importance in closing the achievement gaps between students.

According to Ainsworth and Viegut (2006), the primary reason educators should assess is, “They want to know if, and to what degree, students are making progress toward explicit learning goals” (p. 21). These authors cautioned that while at times educators use assessment to determine levels of student mastery of specific content, “The true purpose of assessment must be, first and foremost, to *inform instructional decision making*” (p. 21). Popham (2008), Marzano (2006), and Reeves (2007) agreed, and also stated that Formative Assessment provides students with the useful, timely information they need to adjust their learning tasks if needed. Assessment utilized as a formative instructional tool supports both students and teachers in the learning process.

Formative Assessment also fosters an entirely different classroom climate by encouraging students to take responsibility for their own learning and the learning of their classmates, as opposed to the teacher being the sole evaluator of student performance.

(Popham, 2008; Marzano, 2006). When assessment is utilized for learning, the student and teacher work together as a team. Wiliam, during an Assessment Conference keynote in 2011, stated: “When a teacher marks an assessment and hands it back to the student with marks all over it, the teacher becomes an adversary. But when the teacher sits down with the assessment and teacher and student looks over the assessment *together* to discuss strengths, weaknesses, and collaboratively plan for the next steps in instruction and learning, the teacher becomes an ally.” Finally, Formative Assessment promotes considerable learning for all students, rather than significant learning taking place for only those students who are motivated and academically talented (Popham, 2008; Marzano, 2006).

#### *Common Formative Assessment*

Schmoker (1999) asserted that three very simple concepts underpin achievement results: “meaningful, informed teamwork; clear, measurable goals; and the regular collection and analysis of performance data” (p. 2). These three essential concepts provide the foundation for the collaborative work that surrounds common formative assessments. Reeves, as quoted by Ainsworth (2008), defined Common Formative Assessments as “Not standardized tests, but rather teacher-created, teacher-owned assessments that are collaboratively scored and provide immediate feedback to students and teachers” (p.12). Not all classroom formative assessments will be common, but some formative assessments will be common to the entire grade level or department level team. Common Formative Assessments encourage grade level and department level teams to develop consistent expectations and learning priorities around identified essential standards, including established measures for student proficiency. Moreover, they clarify

the level of rigor that is embedded within instruction and assessment, which fosters the alignment of classroom, school, district, and state expectations, ultimately preparing students for success on state assessments. (Ainsworth & Viegut, 2006). These assessments are intentionally developed to measure student mastery of only the most essential learning standards.

Many experts agree that Common Formative Assessments should revolve around a set of identified priority or power standards (Ainsworth, 2003; Marzano, 2006) or enduring understandings (Wiggins & McTighe, 2005). The contention is that most state and national standards contain far too much information for teachers to effectively cover during the course of the instructional year, and the standards should be pared down to those that are most essential; then these standards should be taught for mastery. Stiggins (2008), Reeves (2007), and Ainsworth (2003) explained that educators must reduce the standards to identify and deconstruct the most essential standards that students must master. By scaffolding standards and aligning vertically by course or grade level, educators can ensure that no gaps, omissions, or overlaps exist.

Essential standards or “Power Standards” are specific standards extracted from a complete list of grade-level or course-level standards that teachers identify as critical for students to be able to know and do at the end of a grade-level or course. These prioritized learning outcomes are identified by educators for their importance for student success in life, at the next level of learning, and on state assessments. By narrowing the vast amount of academic standards for each course or grade level subject area down to a specific, focused set of essential standards, educators help to ensure that those identified as critical are taught to mastery through the common formative assessment process (Ainsworth,

2003; Ainsworth, 2007; Reeves, 2003; Reeves, 2007). Once Power Standards have been identified, educators “unwrap” (Ainsworth, 2007, p. 87) or “unpack” (Marzano, 2006, p. 17) the standards by identifying the important concepts and skills students should be able to know and do. Next, they identify the conceptual understandings or big take-away ideas students should walk away with after the instructional cycle surrounding the standard has concluded. Finally, using these broad conceptual ideas, educators develop essential questions that can be used during instruction to peak student interest and drive learning outcomes (Ainsworth, 2003; Ainsworth, 2004; Ainsworth, 2007).

To effectively implement Common Formative Assessments, administrators will need to allow teachers the time they need to collaborate. Collaboration encourages group members to work interdependently, relying on each other’s diverse skills and experiences. As members share the essentials of new concepts, they assimilate a variety of new ideas into shared knowledge. This collaborative work fosters higher-order thinking and an array of problem-solving strategies, which benefits both teachers and students (Bruffee, 1999). Many of the administrative announcements typically reserved for faculty meetings can be sent in an email, allowing more time to analyze student work, develop common formative assessments, and engage in rich discussions around data (Reeves, 2007).

DuFour’s model of Professional Learning Communities provides an excellent framework for teacher collaboration. This model consists of small teams of teachers who share common curriculum and/or students, meeting together to answer guiding questions that serve as the cornerstone for team collaboration:

1. Exactly what do we want all students to learn?

2. How will we know when each student has acquired the essential knowledge and skills?
3. What happens in our school when a student does not learn? (DuFour, DuFour, Eaker, & Karhanek, 2004, pp. 21-27)

Effective collaborative time surrounding assessment is focused and data-driven. Schmoker (1999) believed educators must rely on data-driven results in all school improvement efforts. “We have been naive; without the reference point that results provide, experience is often a slow and misleading teacher” (p. 2). A focus upon results does not diminish the importance of process—they are indispensable to each other. Results indicate which processes are effective and provide reasons for adjustment when processes are not facilitating learning. When educators utilize assessment results to drive instruction, they have the information to better support the students they serve. Reeves (2007) encouraged educators to develop short assessments that allow for accurate, timely, specific feedback to students, and he cautioned while these assessments may not be psychometrically perfect, the purpose of assessment is to support students with timely interventions. By waiting to develop a psychometrically perfect assessment, educators run the risk of assessments being postponed, teachers becoming disconnected from the assessment process, and feedback results that are so extensive it is difficult to develop appropriate, targeted interventions.

#### *Assessment Feedback*

Hattie (1992) reviewed almost 8,000 studies, and he came to the conclusion that the most powerful single instructional adjustment that enhances student achievement is effective, timely feedback; however, not all feedback is motivating. Research reveals

when students are given a graded paper that merely indicates right or wrong answers, it actually has a negative impact of three percentile points on student achievement.

However, by providing the correct answer on a graded paper, student achievement increases by 8.5 percentile points. When the assessment criteria are well understood by students in advance, student achievement increases by an average of 16 percentile points. Furthermore, when teachers provide an explanation for why the answer is correct or incorrect, or require students to respond to the item until they master it, students gain 20 percentile points (Bangert-Drowns et al., 1991).

According to a review of studies by Fuchs and Fuchs (1986), graphically displaying student results is associated with a 26-percentile gain in student achievement. This practice provides motivation for students and helps teachers to fully understand each student's level of understanding and skill attainment (Marzano, 2006). Furthermore, when teachers evaluate assessment results with a given set of criteria or rules, students experience a 32-percentile gain in student achievement (Marzano, 2006).

Marzano (2006) analyzed many reviews of the research surrounding classroom assessment and surmised that feedback must be formative (occur during the instructional process), should clearly share progress toward learning goals, and provide guidance on how students might improve. Furthermore, feedback should be encouraging and occur often. Bottom line, the more specific the feedback, the more valuable it is to the student. When descriptive feedback is directly linked to performance criteria, it actually propels learning forward (Davies, 2007).

### *Assessment Literacy*

School and community leaders have little knowledge of the daily impact classroom assessments can have upon teachers and students (Stiggins, 2007). Both teachers and school leaders rarely receive pre-service training on how to effectively utilize classroom assessments. School leaders and university programs must provide the professional development opportunities needed for teachers to construct quality assessments (Stiggins, 2008). Teachers cannot accommodate differences in the learning needs of students within their classrooms if they do not have access to quality, daily indicators of the differences in their student's achievement levels. Little investment has been made to ensure that classroom assessments are utilized effectively or if used, that they are quality assessments. According to Stiggins (2008), "The typical teacher will spend a quarter to a third of her or his available professional time engaged in assessment-related activities. If it is done well, the evidence is compelling: all students prosper, but especially struggling learners. If it is done poorly, all students suffer" (p. 6). Teachers need opportunities to learn how to effectively utilize assessment, monitor student progress, and provide valuable feedback or the achievement gap will remain ever-present (Stiggins, 2008). Through formative assessment processes, teachers have opportunities to evaluate the formative effects of their teaching programs, which foster excellence in teaching (Hattie, 2009).

Before new assessment practices can be implemented, leaders must provide teachers the professional development they need to increase their level of assessment literacy. Sending teachers to a workshop to gain this knowledge is impractical—there is simply too much information for teachers to process. By providing teachers with quality

professional development materials and implementing ongoing learning through study teams or learning teams, teachers can develop knowledge of best practices surrounding formative assessment (Stiggins, 1999). Most assessments students participate in take place on a day-to-day basis within the classroom, and this is where educators need to place their focus (Stiggins, 2007).

### *Student Beliefs*

Educators are well aware that learning occurs at different rates for individual students. While some students acquire new information very quickly and score well on traditional classroom assessments, others students learn at a much slower pace and score poorly. Students learn from their earliest experiences to use information provided through classroom assessment to reach conclusions about themselves as a learner (Stiggins, 1999, 2006). Students who learn quickly and do well on assessments, develop confidence in their abilities as learners and believe that the effort they apply toward learning pays off. This success encourages these students to strive for success, and as a result, they continue to work hard, learn much, and this successful cycle continues. However, there are some students who learn at a slower pace. From the earliest grades, these students do poorly on assessments. Poor assessment results chip away at their confidence and cause them to be reluctant in learning, at times to the point that they lose all interest and give up, choosing to disengage, rather than face constant failure and embarrassment. In short, a student's emotional reaction to assessment results determines how they think, feel, and will likely respond to learning tasks in the future (Stiggins, 2005).

Stiggins (2007) cautioned that educators must think about assessment from the student's perspective. Historically, assessment experiences have occurred at the end of

the instructional unit to measure student mastery of the material. This type of assessment caused winners and losers by distinguishing learning difference between students and assigning a rank or letter grade. These grades are motivating for some students and defeating for others. However, when assessment is used to promote learning, “It becomes a series of interlaced experiences that enhance the learning process by keeping students confident and focused on their progress, even in the face of occasional setbacks” (p. 23).

Assessment for learning helps to encourage a positive emotional response to assessment results from all students. Prior to instruction, students are provided with a clear picture of the learning target by observing exemplary and mediocre work samples, which share expectations for the assignment. As students apply themselves, teachers provide feedback surrounding student progress toward the target (Stiggins, 2005). Students continually measure the tasks asked of them and can respond positively or negatively, depending upon whether or not they believe they are capable of understanding the concepts embedded within the task, and if they were to expend the effort, would it pay off in the end. An essential question for educators, then, is how do we ensure that students respond to our tasks and assessments in ways that motivate them to keep trying? (Davis, 2007)

Involving students in the assessment process engages learners by helping them to develop a sense of commitment for their own learning. The adults in schools are not the only ones who assess student performance. Students use assessment results to analyze their own performance with questions such as: Is this content too difficult for me to master? Am I smart enough to tackle the next assignment/project/task? Is trying going to

bring me failure and public embarrassment? How a student responds to these types of self-assessment questions is at the core of student motivation.

Stiggins (2007) believed if students respond negatively, learning virtually stops, regardless of what the adults have intended. “Even the most valid and reliable assessment cannot be regarded as high quality if it causes a student to give up” (p. 26). Furthermore, Hattie’s (2009) synthesis of research indicated that students quite accurately interpret how they are doing with classroom work, and that positive perception of themselves as learners, through prior success, is a huge motivating factor in student achievement. Success in learning and the indicators that more success will come is imperative—students must believe that success is within their grasp if they apply themselves.

The essential practices surrounding assessment for learning can provide the kind of productive and useful data teachers, which can use to adjust instruction and students can use to monitor their progress on learning tasks. Student thoughts can be full of self-defeat or can promote continued effort and progress. Students are keenly aware of past success, and when students respond to assessment results in an emotionally productive way they understand what the results reveal, know how to respond better the next time, and continue to try.

It is impossible to close the achievement gap without providing students feedback that supports learning. Stiggins (2005, 2008) posited that it is the learner, not the teacher, who is truly in charge of learning. When students have lost faith in themselves as learners, it is not an issue of building self-esteem, rather teachers should provide these students with a series of small successes. These small successes can build confidence in

reluctant learners, and this confidence encourages more effort. “Through the use of student-involved classroom assessment, student involved record keeping, and student-involved communication, we can let students feel in control of their own academic destiny” (Stiggins, 2008, p. 198).

The type of feedback students receive can either be encouraging or discouraging—and is strongly linked to student motivation. “Drive theory”, a human motivation theory developed by Atkinson (1964), asserted that students are often motivated by one of two factors: (a) the desire to find success, or (b) the desire to avoid failure. Through life experiences, students develop a propensity toward one drive or the other, becoming primarily success oriented or failure avoidant. These inclinations play a huge role in how students anticipate new and challenging tasks. *Success-oriented* students tend to embrace new challenges, while *failure-avoidant* students avoid challenging tasks, even to the point of sabotaging their success with a myriad of reasons why they cannot succeed (Marzano, 2006).

Attribution Theory also provides insight into how discouraging versus encouraging feedback can effect student achievement. This theory proposes that people attribute their success to four specific characteristics: effort, ability, luck, and task difficulty (Weiner, 1974). When proficient students believe that effort is at the heart of their success, they continue to work hard to meet standards. However, often times struggling learners attribute their lack of progress to a lack of ability, poor luck, or they disengage when the task is perceived as too difficult. Hattie’s (2009) research confirmed that there is a strong correlation between student knowledge of past success and student achievement. For students who struggle, these preconceived ideas about learning can be

difficult to overcome. Positive feedback and opportunities for success become pivotal if educators wish to reshape student perception of their likelihood for success.

### *Summary*

The review of related literature illustrates that the regular use of Common Formative Assessments is a powerful resource for closing the achievement gap between students who learn and those who struggle. These assessments take place across grade level or department teams, occur during the instructional cycle, and provide timely feedback for both teachers and students. This feedback enables teachers to differentiate, and if necessary, modify instruction to better meet the learning needs of every student. Specific, encouraging feedback also provides students the opportunity and motivation to adjust their response to the learning task, ultimately mastering essential skills and concepts (Ainsworth, 2007; Ainsworth & Viegut, 2006; Reeves, 2007; Stiggins, 2008; Stiggins & Chappius, 2005, Wiliam, 2007, 2011).

The valuable use of Common Formative Assessments requires the direction and influence of talented leadership. Successful school leadership understands that the school environment must work for both students and teachers. A synthesis of research by Seashore-Louis et al. (2010) discovered that two types of leadership, shared and instructional, proved to be influential upon student achievement but their influence was indirectly related through the collaboration and collective work that teachers shared through learning teams. Schools that developed professional communities and provided the time and support for teams to continue with collaborative work, developed a school culture that fostered higher achievement than schools where teachers continued to teach in isolation.

Reeves' (2003) study of 228 school buildings and data from over 130,000 students illuminated the importance of school culture as it relates to student achievement. In spite of high poverty and high minority student populations, the exemplary schools in this study boasted student proficiency rates of 90% or higher on independently conducted tests of academic achievement. What did the cultures of these schools have in common? Each one of the schools possessed a culture that emphasized the importance of academic achievement, with a specific focus on improvement. Evidence of student achievement was on display everywhere including in the principal's office, hallways, and common learning spaces. These schools made it exceptionally clear teaching and learning were the primary purposes for both students and teachers and that academic growth and learning were priorities.

The review of the research is clear. The use of Common Formative Assessments, the presence of talented, dedicated leadership, and a culture that promotes academic success for all are positively linked to increased student achievement. This study will further explore these three phenomena as they relate to the case study of one upper elementary school in the Midwestern United States that has experienced three years of increased math achievement. Chapter Three presents the methodology that will be utilized in this qualitative study and details the comprehensive design of the study to be conducted.

CHAPTER THREE  
RESEARCH DESIGN AND METHODOLOGY

*Introduction*

The review of recent literature indicated formative assessment can have a significant, positive impact upon student achievement. An extensive, longitudinal study conducted by Fennema, Carpenter, Franke, and Levi et al. (1996), studied the beliefs and instruction of 21 primary grade teachers over a four year period, revealing that formative assessment and increased knowledge of student learning and thinking surrounding mathematics through Cognitively Guided Instruction (CGI) resulted in changes in the instruction of individual teachers. These instructional changes were directly related to significant increases in student achievement in both mathematical concepts and problem solving. Furthermore, extensive reviews of the research by Black and Wiliam (1998) and Fuchs and Fuchs (1986) helped to illustrate that the use of assessment to inform the instruction of students had a profound impact upon student achievement, making up to and exceeding twice as much progress as what students might achieve without the use of ongoing formative assessment. Wiliam (2011) described formative assessment in the following way:

An assessment functions formatively to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers to make decisions about the next steps in instruction that are likely to be better or better founded, than the decisions they would have made in the absence of that evidence. (p. 43)

Ainsworth (2007) distinguished *Common* Formative Assessments from classroom formative assessments in two distinct ways: (a) they are collaboratively created and administered by grade level or course teams to every student, multiple times throughout the quarter, semester, trimester or instructional year; b) the purpose of common formative assessments is to measure student progress *only* around a specific set of power standards. These features differ from classroom formative assessments, which provide multiple types of assessments and are utilized with the entire set of grade or course level standards.

For the purpose of this study, a qualitative, case study was selected to investigate how common formative assessments are utilized in ways that impact student achievement. Qualitative research methods are chosen when a specific or complex phenomena or problem needs to be fully explored or investigated. Through qualitative methods, researchers can capture a detailed understanding by directly seeking out those who have experienced the problem or phenomena under study. This type of research allows the researcher to focus upon the meanings of the participants in the study, rather than to shape his/her understanding from personal experiences and the ideas gleaned from the review of related literature (Creswell, 2007). By exploring multiple perspectives, many factors involved in the situation can be identified, ultimately providing a holistic account or detailed illustration of the issue under study.

While there is a significant amount of literature that supports the use of Common Formative Assessments in schools, there is a lack of descriptive research surrounding the effective implementation of these assessments at the upper elementary level, specifically in regard to achievement in mathematics. Closely examining how one typical school has

successfully implemented the use of Common Formative Assessments in ways that result in academic achievement for all students may be beneficial for similar schools that desire to make the same positive changes. Every upper elementary school situation is certainly unique for a variety of reasons, yet many generalities can be drawn from thick, rich descriptions of the successful experiences of others. By providing detailed descriptions of the participants and the setting under study, these discoveries can provide insight and direction as schools with shared characteristics explore the methods and practices associated with the effective use of common formative assessments (Creswell, 2007).

#### *Rationale for Qualitative Study*

Heppner and Heppner (2004) clearly explained that qualitative research involves a “...interpretive, naturalistic approach to the world” (p. 138). Therefore, qualitative researchers study things in their natural settings, seeking to make sense of, or interpret meaning through the people who experience the phenomena. Following a naturalistic paradigm, qualitative research methods reveal multiple perspectives, which when viewed holistically, enable the researcher to construct meaning.

Case study research is a method or type of qualitative research design in which the researcher explores one or multiple complex, bounded systems or cases, through the use of multiple data collection sources. Several programs or a single program may be selected for study. Merriam (1998) noted “if the phenomenon you are interested in studying is not intrinsically bounded, it is not a case” (p. 27). To determine if a topic is bound enough to qualify as a case study, one need merely to determine that the study participants are limited in number and the study is time-bound. A case study seeks to

include as many variables as possible and illustrates the interaction between variables with thick, rich description.

This single, instrumental case study (Creswell, 2007), using Common Formative Assessments as the unit of analysis, was intended to explore how and in what ways teachers utilized Common Formative Assessments in ways that contribute to sustained improvement in mathematics achievement. This study also explored leadership and culture as they contributed to the effective use of common formative assessments and promote academic achievement for all students.

### *Research Questions*

Within the context of this study, the following research questions were addressed:

1. How does one progressive upper elementary school within a Midwestern United States district utilize common formative assessment in ways that contribute to sustained improvement in math achievement?
2. What types of leadership are evident in the use of common formative assessment that contributes to the mathematics achievement of students within this school?
3. What characteristics of organizational culture contribute to the effective use of common formative assessments in this upper elementary school?

### *Participants*

Merriam (1998) noted that a case study is distinguished as being particularistic, focusing on a specific condition, occurrence, program, or phenomenon. In addition, Heppner and Heppner (2004) revealed that participants in a qualitative study must have experienced the phenomenon being investigated and be willing to convey these

experiences. These two criteria lead to the use of a typical, critical sampling to identify a target upper elementary school for a single instrumental case study (Creswell, 2007).

The researcher contacted the Missouri Department of Secondary and Elementary Education (DESE) and obtained a data set that included five years of MAP scores for every school serving grades 3-8 in the state of Missouri. This data set included data for the mathematics subtest of the Missouri Assessment Program (MAP), a summative, criterion-referenced assessment, between the spring assessment years of 2007 through 2011. Included in the data were subgroup scores desegregated by total student population, students qualifying for free or reduced lunches, students identified as ethnic minority, and students with an Individual Education Plan (IEP). Citing growth trends between 2007 through 2011, the researcher identified an average-sized district located in the Midwest region of the United States with typical demographics that experienced significant growth in the upper elementary grades, across each subgroup population over the past three years. Next, purposeful sampling was utilized to determine participants for the study (Creswell, 2007). The building principal, instructional coach and the school counselor were selected for a personal interview. Focus group interviews totaled six discussions and included two PLC teams at the third, fourth, and fifth grade levels that were responsible for mathematics instruction. Finally, an online survey was distributed to all instructional faculty and staff.

### *The Personal Interview*

A case study strives to present a comprehensive illustration of the case and its context through narrative description (Creswell, 2007). The personal interview is one of the most effective ways for the researcher to discover the meaning people make of an

experience. To quote Seidman (2006), “At the root of in-depth interviewing, is an interest in understanding the lived experience of other people and the meaning they make of that experience” (p. 9). Personal interviews were conducted in order to derive as much rich meaning as possible from this case study. Each interview lasted approximately one hour. The use of an interview protocol ensured consistency within the interviews; however, interviews were semi-structured, which also allowed for the exploration of additional ideas and topics as they became apparent through interview dialogue (Creswell, 2007). Participants included the building principal, the instructional coach, and the school counselor. Each participant signed an informed consent prior to each personal interview (Appendix A).

#### *The Focus Group Interview*

Focus group interviews were conducted with each PLC team (data team) and included between 3-8 grade level teachers who share common mathematics curriculum. Upon receiving permission from building administration to conduct focus group interviews, the researcher provided letters of invitation to each PLC team (data team) member. By interviewing each PLC team, the researcher was able to reach saturation, assembling all perspectives and ideas, which were then analyzed for emergent themes and patterns (Krueger & Casey, 2000). While the focus group interviews were semi-structured, enabling the researcher to explore developing ideas throughout the interview dialogue, the use of a questioning route ensured consistency across all focus group interviews (Creswell, 2007). Each participant signed an informed consent form prior to participation in the focus group interview (Appendix B).

### *Online Teacher Questionnaire*

To gather additional descriptive insights, the researcher utilized an open-ended, online teacher questionnaire, which was emailed to each classroom teacher. Respondents received a letter, which explained the purpose of the questionnaire, detailing the window for survey completion, and providing an explanation for why their input is important to the study. Prior to distributing the survey to participants, the researcher piloted the survey amongst colleagues, specifically, an upper elementary PLC team, to determine the appropriateness of the survey, consistency of information gleaned from the survey, and to determine if any of the questions were misleading or confusing to participants (Fink, 2006). Each participant signed an informed consent form prior to completing the survey (Appendix C).

All interview and survey participants were informed of their rights, including the voluntary nature of their participation, their right to withdraw from the study, the right to review and if desired, withhold material, and the right to privacy through the use of pseudonyms. Each participant was provided the opportunity to receive a copy of the executive summary of the study, and these were distributed at the conclusion of the study.

### *Data Collection and Instrumentation*

Qualitative research utilizes a variety of data that is conveyed through words, providing a detailed description of people and their experiences. Qualitative data analyzed in this study included direct quotations through interviews, responses to a questionnaire, recorded observations, and pertinent information gleaned from a variety of select documents (Creswell, 2007). Also unique to qualitative studies, and this one being no exception, was the use of the researcher as the key instrument for data collection.

These two phenomena required the researcher to spend considerable time with study participants in their natural setting (Merriam, 1998).

Case study relies upon an emergent design, meaning that while the researcher developed an initial plan for the study, this plan was modified somewhat throughout the data collection process based upon the emergent patterns and themes that developed from the data (Creswell, 2007). By triangulating the data and conducting member checks and peer reviews, the researcher ensured that a holistic picture of the study emerged increasing the validity of the study and reducing researcher bias (Merriam, 1998).

Ethical considerations were incorporated throughout the research process, protecting all participants involved in the study. Safeguards included revealing researcher bias at the onset of the study, clarifying the intent of the research and staying true to the purpose of the study, and ensuring confidentiality to the extent possible in case study research. In addition, informed consent forms were utilized with all survey and interview participants. Finally, several member checks and peer examinations were conducted ensuring that the results from the research were probable (Merriam, 1998).

### *Personal Interviews*

Interviewing allows the researcher to understand the meaning that people make of their own experiences, providing much insight into the way people carry out their experiences. In this study, participants were interviewed to glean a deeper understanding of how the use of common formative assessments has changed instructional practices, which have resulted in an increase in student achievement. Furthermore, the researcher sought additional insight surrounding a change in culture as common formative assessment practices were implemented with purpose.

Seidman (1997) claimed that inquirers interview others not to evaluate in the traditional sense of the word, but because they have "...an interest in understanding the lived experience of other people and the meaning they make of that experience" (p. 9). Interviewing should be considered as a primary data collection source if it will provide better data. In case study research, interviews are very likely the best technique for gleaning the rich descriptive data that cannot be obtained through other methods (Merriam, 1998). Because the interviewer is considered the actual instrument of this specific research method, the skills and abilities of the interviewer make a difference in both the quality and quantity of data collected. Practicing interview skills prior to the actual interview sessions will help interviewers garner rich meaning from study participants (Heppner & Heppner, 2004).

Upon reviewing the existing literature and piloting the interview questions for clarity and use, a semi-structured interview protocol was developed (Heppner & Heppner, 2004) and may be found in Appendix D. The purpose of the interview was to examine the perceptions of leadership in regard to the implementation and continued use of common formative assessments and leadership perceptions of how these assessments have helped to increase student achievement in mathematics. The researcher practiced delivering the questions with trusted peers prior to conducting the interview (Heppner & Heppner, 2004). The interview was semi-structured, in which the same specific questions were asked of each participant; however, the interviewer followed up on ideas that may not have been on the list of interview questions, but developed during the interview dialogue (Merriam, 1998; Seidman, 2006). Focus group discussions and interviews were recorded and fully transcribed to ensure accuracy of research findings.

### *Focus Groups*

The purpose of a focus group is to understand how people, who possess specific characteristics, feel about a particular issue, ideal or topic, with a goal of identifying specific trends or patterns (Krueger & Casey, 2000). Quality research involves creating a design that is appropriate for each specific situation (Patton, 2007). Consequently, focus group interviews provided relevant data for the purpose of this qualitative study. Select focus groups consisted of six separate groups of 3-7 participants. A purposeful questioning route (see Appendix E) was developed and utilized with all six groups and included the following questions types: opening, introductory, transition, key, and ending questions (Krueger & Casey). Focus group interviews took place at the school to foster a comfortable, easily accessible environment.

### *Online Teacher Questionnaire*

A survey is one method of collecting information that can be used to determine individual feelings, attitudes, perceptions, or values about specific phenomena. Surveys can be in the form of a questionnaire, self-completed on paper or online, or may be an interview that takes place in person, over the phone, or through a teleconference (Fink, 2006). For the purpose of this study, an open-ended cross-sectional online teacher questionnaire was utilized to discover perceptions surrounding cultural changes that have incurred since common formative assessments have been implemented at each grade level and reveal how the existing culture continues to foster the effective use of these assessments. An example of the questionnaire may be found in Appendix F.

### *Document Analysis*

Qualitative research relies on multiple sources of data to illustrate the phenomena under study. Documents were identified for this study based upon the review of relevant literature, emergent findings, and in response to interviews with participants. Documents were analyzed for authenticity and accuracy and identified as either a primary or secondary source of information (Merriam, 1998). These documents were not used in isolation; rather they were one source utilized to help answer the research questions. Documents, while not developed for the purpose of research, may not exactly fit the conceptual outline for the study or may appear to be somewhat disjointed. Conversely, because they are independent of the research at hand, they remain unaffected by the research process and grounded in the original context for which they were developed (Merriam, 1998). A document analysis guide was utilized (Appendix G). All documents were copied, coded, and catalogued for analysis and interpretation. Documents analyzed included common formative assessments, PLC (data team) meeting notes, and products from the analysis of assessment data (i.e. SMART goals, intervention plans, tracking of student progress, etc...).

### *Ethical Considerations*

In qualitative studies, the researcher is the primary instrument as they personally analyze documents, observe settings and behaviors, and interview study participants. A case study should be selected only when this type of research is the best method for answering the research questions. Maintaining complete anonymity is virtually impossible with case study research; however, every effort should be made to not utilize actual names of participants, but rather a pseudonym, in the published findings. Another

major consideration includes presenting the case in a manner that is not offensive to the study participants, yet making the most of any benefits that can be gleaned from the research (Merriam, 1998).

Effective researchers share their intentions with the participants involved in the study, ensuring that there is alignment in the shared purpose for the study and the actual purpose of the research (Merriam, 1998). One major consideration for the researcher as the primary instrument in data collection is to maintain respect for participants throughout the collection of data and sharing of findings. Creswell (2007) and Seidman (2006) shared the idea of reciprocity, or giving back to the participants of the study for their time and involvement in the study. Listening attentively and expressing value for what the participants share can do this. Furthermore, thinking through ways the study might expose participants and being sensitive to the power structures within the study, enabled the researcher to take precautions that fostered ethical practices (Creswell, 2007).

A research proposal was submitted to the University of Missouri-Columbia Institutional Review Board (IRB) that fully described the study including data collection methods and details surrounding how the findings from the study would be distributed. Upon receiving approval from the IRB, a letter of informed consent provided information about the study and cautioned participants in regard to any potential risks they might encounter as a result of the study. Next, the researcher, in collaboration with building leadership, developed a timeline for conducting actual site visits, complete with interviews, focus group discussions, the distribution of a culture survey, and observations of culture and climate within the building. A list of documents for analyses was also created and shared with building administration, then later, with (PLC) team leaders.

### *Quality Controls*

The trustworthiness of research results is important in qualitative educational studies and involves conducting research in an ethical manner (Merriam, 1998). Due to the naturalistic setting of qualitative research and the vast difference in data collection methods between qualitative and quantitative studies, some writers posit that different terminology should be utilized to ensure that survey results are valid and reliable. Typical terms such as credibility, dependability, and transferability are qualitative equivalents for validity, reliability, and objectivity (Creswell, 2007). Many techniques can be utilized to ensure that the study is trustworthy. These techniques include: illuminating researcher bias and assumptions, using multiple evaluation methods and sources of data, spending extended time in the field, providing thick, rich descriptions, and implementing peer review and member checks to ensure that the data being reported is indeed accurate (Creswell, 2007).

### *Biases*

The very foundation of a qualitative study begins with researcher assumptions, a theoretical framework, and the exploration of a phenomenon or problem through the meaning assigned by study participants. A case study provides the opportunity to study an innovative program situation or occurrence with depth, bringing about an increased understanding that has the potential to improve educational practice (Merriam, 1998). Due to the emergent nature of case study research, it is imperative for the researcher to be aware of the intrinsic bias that both participants and researcher bring to the study (Creswell, 2007). By explaining the assumptions, discussing expectations, and

identifying the theory that underpins the research, the researcher increased awareness of these biases in efforts to minimize their impact during data analysis.

### *Validity*

Creswell (2007) defined validity as it relates to qualitative research as "...an attempt to assess the 'accuracy' of the findings, as best described by the researcher and the participants" (p. 207). There are several validation strategies, which if utilized, lead to more accurate research findings. Triangulating the data by using multiple and different methods substantiate research evidence. Providing opportunities for peer review and debriefing as well as member checking invites peers and actual study participants to review the findings and interpretations for accuracy. Moreover, by clarifying researcher bias, the researcher can inform the reader of any past experiences or orientations that may influence study outcomes. Finally, the thick, rich description that accompanies qualitative studies enables the reader to decide if findings can be transferred because of similarities in context or situation (Creswell, 2007; Merriam, 1998).

### *Accuracy and Credibility*

According to Patton (1997), "Credibility is a complex notion that includes that perceived accuracy, fairness, and believability of the evaluation *and* the evaluator (p. 250). By clearly disclosing the strength and weaknesses of the data and utilizing information sources that are justifiable, the researcher provided information that is both believable and accurate. A case study presents multiple conceptual truths as shared by the participants involved in a qualitative study; therefore, the credibility of these truths is actually measured by the degree of acceptance by those exact participants (Heppner &

Heppner, 2004). By accurately reflecting the ideals, beliefs, and lived experiences of those involved in the study, the research reflects credibility.

### *Reliability*

Reliability in quantitative research refers to the likelihood that research findings or results will be replicated. This presents an issue due to the very nature of qualitative research—a type of research that is highly contextual and situational. Unlike experimental research, which is based upon the supposition that there is a single, correct reality, qualitative research searches to illustrate and depict the “world” as those in the world experience it—bringing together multiple realities to identify emergent patterns or themes. A much more appropriate look in regard to the reliability of qualitative research is to seek results that are dependable and consistent with the data that were collected. By sharing assumptions and the theory that underpinned the study, triangulating data sources using multiple methods, and providing a clear path that leads to study results, the researcher ensured that study results were dependable (Merriam, 1998).

### *Data Analysis*

Prior to the analysis of data in any qualitative study, the researcher should create a system for organizing the multitude of data that will inform the study (Creswell, 2007). Merriam (1998) claimed that qualitative researchers rarely insist on one distinctly right way and wrong way of doing things; however, the data analysis process is one exception. Due to the overwhelming volume of narrative data that is typical of qualitative research, the data should always be analyzed concurrently during the data collection process. By constantly refining the study throughout the collections process, the data do not become cumbersome and overwhelming, and emergent ideas can develop. Furthermore, Merriam

recommended the continual exploration of literature while in the field, and using metaphors, analogies, and visual aides to step back from the research, check for emergent ideas or themes, and to bring clarity and focus during data analysis.

Describing the case under study and the context in which the case is situated provides necessary background information and is an on-going and essential process in case study research. Both Creswell (2007) and Merriam (1998) recommended thoroughly reading through the text after each data collection session, making notes in the margins, and forming initial codes, which will help with data retrieval when needed. Next, the development of conceptual categories, derived from the data through constant comparative methods encourages the emergence of central themes or patterns. These categories, themes, and patterns will reflect the focus of the study (Creswell, 2007; Merriam, 1998).

Ultimately, constructing categories encourages the researcher to analyze and interpret the data and develop generalizations about the specific case and setting at hand. These categories should be precise and detailed, echo the purpose of the research, and be all inclusive with data fitting within only one category, thus further refining the conceptual themes of the study and presenting a comprehensive picture of the topic under investigation (Merriam, 1998).

Data collection in this case study was extensive and relied upon multiple sources including focus group interviews, leadership interviews, an open-ended survey, and document analysis, in addition to observations of the setting to identify cultural indicators (Appendix G). Data were coded during collection and on-going analysis of the data occurred throughout the data collection process. Emergent themes presented “naturalistic

generalizations” (Creswell, 2007, p. 163) through data analysis, illustrating a holistic, in-depth picture of the use of common formative assessments in this district and the impact their use has upon student achievement.

### *Summary*

Chapter Three detailed the questions under research and the qualitative methods that were utilized to adequately research the effective use of common formative assessments in an upper elementary school in the Midwestern United States. Four qualitative methods were selected and used for this study: personal interviews, focus group interviews, an open-ended questionnaire, and document analysis. Personal interviews were conducted with the building principal and the leaders of three PLC teams. Additionally, each grade-level PLC team participated in a focus group interview. An open-ended questionnaire was distributed to the entire staff to further inform the study, and finally, pertinent PLC team and assessment documents were analyzed. This chapter also detailed the research design, identified participants for the study, and addressed procedures surrounding data collection and analysis. Chapter Four will identify emergent themes based upon the data collected. Chapter Five will provide discussion and conclusions from the study and will make suggestions for additional research.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS

#### *Introduction*

In light of today's global society and the ever-changing job market awaiting our high school graduates, educators are compelled to take more ownership now than ever before. The academic preparation of American students to succeed with post high school training and or education is imperative for their success in life (Wiliam, 2011). Research has revealed the failure to develop strong underpinnings in mathematics can have an impact upon persistence to graduation, (NRC, 1989); such failure often limits access to higher education, and, ultimately, prevents students from pursuing many mathematical and scientific careers (Shoenfeld, 2002). Recent studies predict the occupations that will be most predominant through the next several years will be those careers that require education beyond high school. Furthermore, these occupations will be some of the highest paid positions in the state of Missouri (Missouri Economic Research & Information Center, 2010).

The purpose of this qualitative instrumental case study was to analyze the common assessment practices of a progressive upper elementary school in a school district located in the Midwestern United States that has shown two consecutive years of achievement gains in mathematics as measured by the state achievement test. Intermediate Elementary, an upper elementary school that serves third, fourth, and fifth grade students, is located in an average-sized rural community located near the southern border of a midwestern state. The researcher intended to study the common formative assessment practices utilized at Intermediate Elementary to determine the impact these

assessments had upon student achievement. In addition, the researcher investigated what types of leadership were present that facilitated the use of common formative assessments. Finally, cultural indicators that promoted the effective use of common formative assessments were explored.

The following questions framed the study that took place at Intermediate Elementary, an upper elementary school located in an average-sized, rural community in the Midwestern United States:

1. How does one progressive upper elementary school within a Midwestern United States school district utilize common formative assessments in ways that contribute to sustained improvement in mathematics achievement?
2. What types of leadership are evident in the use of common formative assessments that contributes to the mathematics achievement of students in this school?
3. What characteristics of organizational culture contribute to the effective use of common formative assessments in this upper elementary school?

Chapter Four is divided into three additional sections. The first section, Data Collection, describes the setting of the study, the participants involved in data collection, and the protocol utilized for data collection. The second section, Data Analysis, will address each research question by identifying the themes that emerged, providing thick, rich, description of the data discoveries. Finally, a summary of the chapter is provided to reiterate the ideas presented in Chapter Four.

#### *Data Collection*

This qualitative instrumental case study focused upon the staff perceptions of one Midwestern United States elementary school. Perceptions were captured using multiple

instruments, including leadership interviews, focus group discussions, and an online questionnaire. Observations of culture and leadership were recorded during onsite visits, and several documents germane to the study were collected and analyzed.

The sections that follow details the study setting and includes a brief history which explains the process that lead to the implementation of common formative assessments at Intermediate Elementary. Protocols were followed to protect study participants and to facilitate communication and understanding between the researcher and the instructional staff of Intermediate Elementary.

### *Setting*

One upper elementary school in a rural, average-sized midwestern community was selected as the setting for this qualitative instrumental case study. This Title I school is a rural school with just over a 70% poverty rate that did not attain annual state achievement targets in communication arts and math. Consequently, Intermediate Elementary was designated as a school in need of improvement, level six, in the summer of 2009.

Intermediate Elementary, a rural, intermediate school, serves over 500 students in grades 3-5. The student population is diverse, with 63.3% of the student population made up of white children; black students comprise 28% of the student population; Hispanic children consist of 7.3% of the student population, followed by a 4% Asian minority. This building has a moderately high poverty rate. Slightly over 70% of students who attend qualify for the free or reduced-price lunch program.

The spring of the 2008-2009 school year brought news of change for this upper elementary school and several schools in the Midwestern United States. Intermediate

Elementary, a Title I school, was one of several rural schools in the region determined to be in level six school improvement for not attaining annual state achievement targets in communication arts and math. As a result, the school received “restructuring” status, which required intensive interventions, including the implementation of a research-based fundamental reform model, which if implemented, would provide significant promise of enabling the school to make adequate yearly progress.

The State Department of Education conducted a meeting with several schools in the region and revealed the state was allocating money to twenty select schools across the state toward efforts for these districts to meet annual state proficiency targets in communication arts and math. Next, the superintendent of the district informed the principal of Intermediate Elementary they would use school improvement money allocated to their district to enroll the principal in a Turnaround Specialist program, a two year, part time partnership between Intermediate Elementary and the University of Virginia’s Darden School of Business and Curry School of Education.

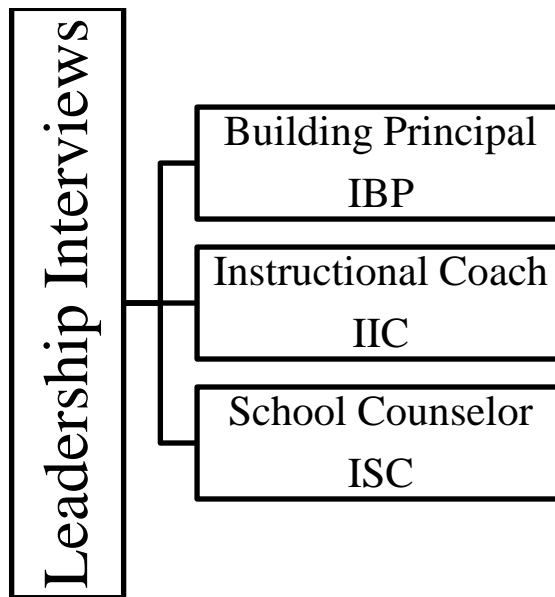
The purpose of this part-time, two-year program was to help low performing schools build the internal capacity required to bring about change, and, ultimately, sustained improvement in student achievement. A two-year commitment by the principal, a district shepherd (the district curriculum director), and a three member leadership team would require travel to Charlottesville, Virginia, four times for professional development, bringing back ideas and strategies, combined with planning, that could be implemented at Intermediate Elementary. During the first year the team developed two 90-day plans. Embedded within these plans was the implementation of common formative assessments, data analysis, and a renewed focus upon student achievement.

### *Protocol*

Initial phone contact was made with the principal of Intermediate Elementary approximately six weeks prior to data collection. An email was sent to the principal the following week that outlined the purpose of the study. A follow-up phone call confirmed approval for the study, explained the nature of the data collection, and established a timeline for data collection. The study included interviews, focus group discussions, surveys, the analysis of pertinent documents, and observations of human subjects, which required approval from the Institutional Review Board (IRB) from the University of Missouri. Approval from the IRB was allowed after Intermediate Elementary granted permission for the study to be conducted on site.

*Interviews.* The building principal was interviewed along with the building counselor and instructional coach, who were identified by the building principal for their roles in implementing and facilitating the common formative assessment process. Due to the nature of his job responsibilities, which primarily include supervision and discipline, the assistant principal was not selected to participate in a leadership interview. A letter of informed consent for interview participants was emailed to the principal along with detailed information about the nature of the study. The principal discussed the study with her staff and developed a schedule for interviews prior to the researcher's arrival on campus. Leadership interviews with the school principal, instructional coach, and the school counselor were conducted on site in an office or team room setting, affording privacy for participants. The purpose of the interviews was to gain a deeper understanding of the leadership roles that support the common formative assessment practices at Intermediate Elementary. The letter of informed consent for the interview is

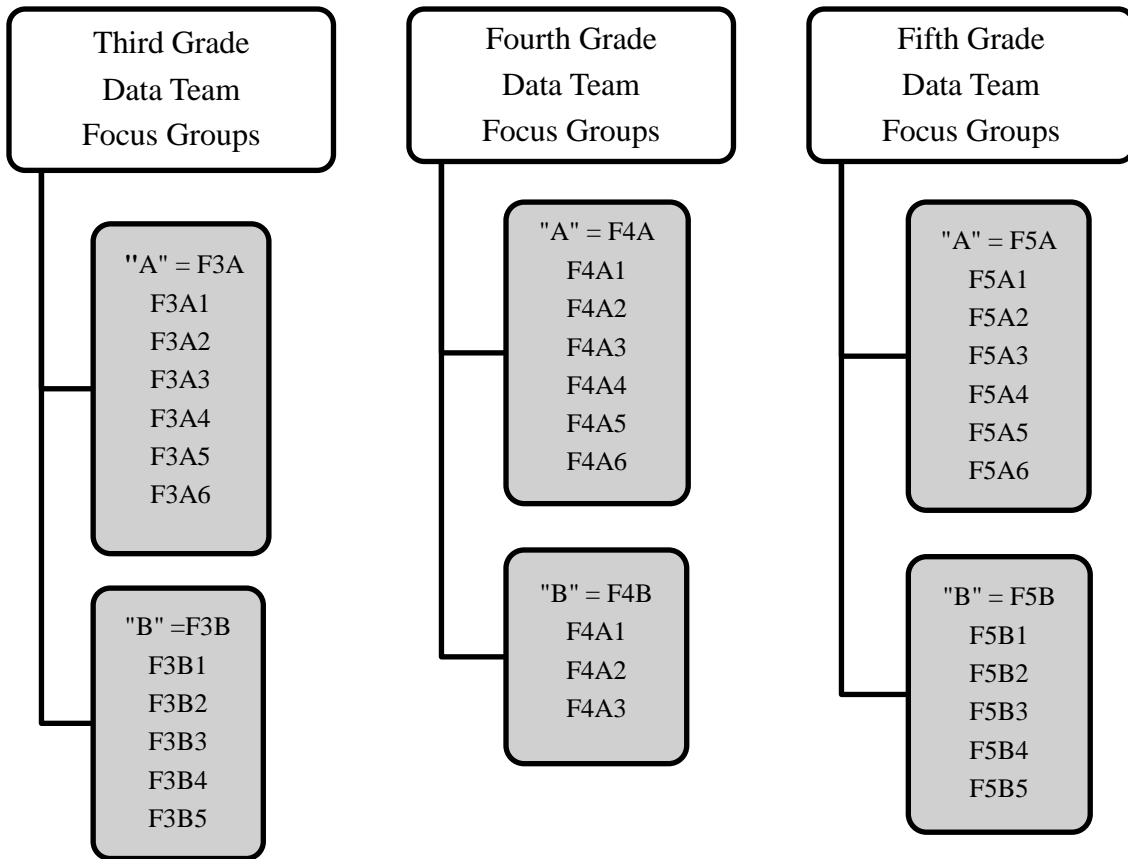
included in Appendix A. The protocol for the semi-structured leadership interviews is included in Appendix D. A coding process was utilized to identify interview participants, which is detailed in *Figure 1*.



*Figure 1.* Leadership interview participant codes.

*Focus groups.* Six focus group interviews were conducted at Intermediate Elementary in the Data Team planning room, a private, conveniently located classroom that has been converted into a teacher work space for team planning. The purpose of the focus group discussions was to provide an opportunity for each data team to share their collective and personal experiences surrounding the implementation and practice of utilizing common formative assessments at Intermediate Elementary School. Data teams consisted of half of each grade level team comprising a data team, equaling two teams per grade level for grades three, four, and five. Participants on each team included between three to five grade level teachers and the instructional coach. A special education teacher

was also present for some of the discussions. The letter of informed consent for focus group discussions is included in Appendix B. The questioning route used to guide the focus group discussions is included in appendix E. Focus group discussion participant codes are detailed in *Figure 2*.



*Figure 2.* Focus group discussion participant codes.

*Online Teacher Questionnaire.* Immediately following the site visit to Intermediate Elementary, an online teacher questionnaire was emailed to the faculty and staff of Intermediate School. The principal placed a letter of informed consent in each faculty member's mailbox, with informed consent required at the beginning of the survey. The survey contained 16 open-ended questions that were designed to glean

additional information regarding cultural indicators, leadership contributions, and practices surrounding the use of common formative assessments at Intermediate Elementary. A copy of the online teacher questionnaire questions has been included in Appendix F. Participation codes utilized for teachers responding to the online teacher questionnaire are detailed in *Figure 3*.

Online Teacher Questionnaire Participants														
SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8	SR9	SR10	SR11	SR12	SR13	SR14	SR15

*Figure 3.* Online teacher questionnaire participant codes.

*Observations.* The principal informed staff members that observations of school culture would be included in this study. Purposeful observations of cultural indicators took place on three separate occasions during the three-day visit to Intermediate Elementary. An observation guide was utilized to focus observations on the types of leadership and cultural indicators that promote the use of common formative assessments in this school. The observation guide is included in Appendix H.

*Document Analysis.* Several pertinent documents were collected and copied by the instructional coach and researcher for analysis. These documents included: assessment reports, recently published articles from regional, state, and national periodicals, school data as reported to the Department of Elementary and Secondary

Education, state assessment documents, data team agendas, pacing guides, lesson plans, diagnostic/predictive assessment scores by teacher, tutoring placement criteria, various predictive/diagnostic assessments, data team schedules, a sample student acceleration plan, and various predictive/diagnostic assessments and data analysis documents.

### *Data Analysis*

Qualitative research methods were chosen for this study enabling the researcher to fully explore the phenomena under investigation and to focus upon participant perceptions, creating a comprehensive understanding of the questions under study (Creswell, 2007). Data collected through various instruments were analyzed through the lens of the research questions throughout the data collection process. Formal analysis began with the transcription of the audio recordings taken during the semi-structured focus group discussions and leadership interviews. All transcripts, survey responses, observational field notes, and documents were thoroughly read, and repeated perceptions, phrases, and ideas were written in the margins. Next, transcripts, survey responses, observational field notes and documents were analyzed and color-coded as they related to each research question. Finally, emergent themes and repeating patterns were identified.

### *Research Questions*

The three research questions focused upon the effective use of common formative assessments at Intermediate Elementary School. First, How does on progressive upper elementary school within a Midwestern Unites States district utilize common formative assessments in ways that contribute to sustained improvements in math achievement? Second, What type of leadership is evident in the use of common formative assessment that contributes to the mathematics achievement of students within this school? Finally,

what characteristics of organizational culture contribute to the effective use of common formative assessments in this upper elementary school? All three facets of this study were intertwined, demonstrating that both leadership and culture are two significant considerations when implementing the use of common formative assessments. The sections that follow share the findings from the research questions. These discoveries were derived from the perceptions of the faculty and staff of Intermediate Elementary in regard to their use of common formative assessments and the types of leadership and cultural characteristics that contribute to the use of these assessments.

#### *Research Question One*

Examination of the data revealed student achievement at Intermediate Elementary has continued to increase with the implementation of common formative assessments. The common formative assessment practices utilized in this school seemed to indicate the effective implementation of common formative assessments required a narrowed emphasis upon the curriculum that was taught and targeted instructional support for students within the regular classroom setting. Essentially, the effective use of assessment was directly linked to changes in both curriculum and instruction.

*Common formative assessments at Intermediate Elementary.* Intermediate Elementary utilizes the Acuity benchmark assessment system from CTB/McGraw-Hill. This system is designed to help diagnose, predict, report, communicate, and provide individual instruction for teaching and learning that is aligned to state standards. Intermediate Elementary has been utilizing Acuity for the past two years, switching from a previous assessment system, which was utilized with frustration during the first year of implementation. Teachers shared the previous assessment system was not closely aligned

to state standards, which made it difficult to use. Conversely, Acuity is closely aligned to state standards enabling teachers to become very focused with instruction and remediation. Faculty member ISC noted:

Acuity tests give us the most accurate data. They are by Macmillan/McGraw-Hill, which publishes the [state] test. Ultimately I know our goal is to raise student achievement, not teach to the test, but we have to have some data that correlates with the test. Acuity is more on [the student's] level. It's the format in which they're used to, and it's productive. You hear the kids talk about it. They get excited that it's Acuity test day, and they like going. We enter the answers with clickers in the computer lab. They think that is cool.

Three predictive assessments are given to students each year and are administered within a specific testing window established by Acuity. Predictive A is administered in late August or early September and contains one third of the Grade Level Expectations (GLEs) from the current year and two thirds of the GLEs from the previous year.

Predictive B is administered in the first or second week of December, assessing students over one third of last year's GLEs and two thirds of the current year's GLEs. Predictive C is administered near the end of January, assessing students entirely over current year GLEs. While every predictive assessment is analyzed and discussed, teachers spend the most time unwrapping Predictive C because this assessment closely reflects the skills and concepts that have been taught. By thoroughly analyzing this assessment, teachers begin to identify those students who need more time with the concept to attain mastery.

In addition to the three predictive assessments, two to three diagnostic assessments are administered between the predictive assessments. The instructional coach

develops the diagnostic assessments by pulling test questions from an item bank in the Acuity system. Items pulled for each assessment align with the pacing guides teachers submit by quarter. IIC explained:

We always [have] a data meeting before, and I plug all the GLEs in that the teachers have given me from their pacing guides. And then I pull them up on the SMART Board and we just go through each GLE. We look at some example questions and I check what they want me to check. I mean it's pretty teacher-driven. Then I pull questions from the item bank. They go through it question by question and if there's a question that they do not feel would be valid, then we go throw it out and pull a new one.

Diagnostic assessments also help teachers stay on track with instruction as all assessments are developed around the quarterly pacing guide. F5A6 noted, "I remember the second diagnostic test was when you were all like 'Whoa, we haven't gotten to that.' I think it is an accountability thing because you realize that we have to get to that."

The Acuity system provides multiple reports based upon assessment results, analyzing the data, and reporting each student's mastery of each GLE. Teachers can easily track student progress and select re-teaching assignments for students to complete on the computer. The predictive and diagnostic quality of this assessment system is designed to provide information about student mastery of skills that will be on the annual state assessment.

*Focus and alignment.* Foundational to the implementation of formative assessments was the development and implementation of pacing guides, which are aligned to the GLEs for each grade level. Grade level teams assigned specific GLEs by

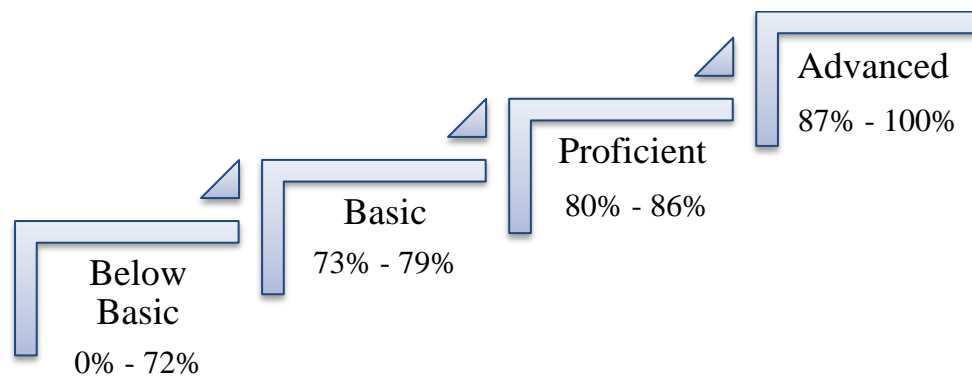
quarter, charting them out across the school year calendar. Teachers use the guide as a tool to ensure they adequately cover each GLE prior to state achievement testing.

Teachers adjust their pacing guides as needed, but they have found they are staying more closely aligned with their pacing guides as they collaborate and plan together. Several teachers expressed aligning instruction with GLEs has brought clarity and focus to instruction. SR3 explained:

We, along with the help of the principal, have focused our learning toward the GLEs and not so much the textbook. Before, we just started at the beginning of the textbook and worked our way through it, focusing on the skill from the lesson in the book, and it was meaningless. Now, we teach lessons that revolve around a pacing guide set up from the GLEs and we are aware of the outcome that we need when teaching.

SR12 concurred, “We have aligned our GLEs to our curriculum which has made teaching so much more effective.” F5B1 noted, “Ten years ago, when I started [teaching] I didn’t know we had GLEs—I mean they taught us in school, but you made your lesson plans based on the book. No one really knew what we were supposed to be doing. It just seems like now we’re more and more aware of what we need to do.” F3B1 explained, “We’re so driven by the GLEs. I think that’s how a lot of us plan. It’s just such a focus on the GLEs and what needs to be taught.” This focus upon the GLEs and the quarterly pacing calendars have led to the development of common yearly lesson plans for math instruction. F3A4 replied, “We have a yearly calendar. We plan all of our reading and math lessons together.”

Every teacher reviews each GLE prior to giving the state assessment, using Study Island, a computer-based instructional program to teach and assess for mastery. Teachers count the days backward from the state achievement test window, reviewing one GLE daily. During this review teachers use the same achievement terminology that is used on the state assessment, assigning a percentile score to each level. This scale is used across grade levels. See *Figure 4*.



*Figure 4.* Classroom formative assessment proficiency scale.

Teachers utilize a longitudinal (2006-2011) GLE frequency distribution chart to prioritize the content standards. This form includes the process standards, depth of knowledge level and question type. Furthermore, the principal and instructional coach attended a workshop that focused on the four most heavily assessed GLEs over time, at each level, for each content area assessed. While all GLEs are taught, teachers collectively expressed that both of these resources helped to provide extra focus upon specific GLEs. F3B2 noted, "...we didn't eliminate any GLE that was on our level, but we definitely focus more on certain ones." F4B1 also explained, "We teach them all, but we emphasize the [GLEs] that are going to be on the [state] test the most."

The school counselor and teachers make sure the testing environment utilized during predictive and diagnostic formative assessments is very similar to the environment utilized when administering the annual state assessment, with teachers actively proctoring the assessment and following state assessment procedures throughout each formative assessment. ISC remarked, “I go in and review the rules of the [state] test, because I want the formative assessments given just like we would give the [state] test.”

Before and after school tutoring is offered to targeted students and is consistently aligned to the communication arts and math GLEs that were taught throughout the week. F4B1 commented, “After school tutoring is whatever we did that week skill-wise in com. arts and math.” Students who are offered tutoring must belong to two or more subgroups (ethnic minority, IEP, free/reduced priced lunch) and score within a target range, by scoring in the low half of proficient or the upper half of basic on the previous year’s state assessment. Document analysis of the Targeted Score Method substantiated the process utilized to target students for tutorial instruction.

*Using data to drive instruction.* Teachers shared that while they are getting better and better at analyzing their own data to know how to adjust instruction, at first the data analysis process was overwhelming. F5A5 shared, “I remember getting...the data back, and going ‘Okay. What do you do with this?’ There’s a bunch of numbers there. But what does that mean, and what am I supposed to do with it?” F5A3 concurred “...or they would say, ‘look—you can get all of these graphs, and look at all of this data’...and it’s like, ‘Okay. And then what?’” F5A1 remembers feeling overwhelmed, “Yeah. That’s like whenever we posted all the data in the lunchroom and we’d go in the lounge, and we just kept looking at it. We’re like, ‘Okay. Now what do we do?’” The initial feelings of

frustration fueled the team collaboration that quickly became a valued process for all grade level teachers. IBP substantiated the early feelings of panic and frustration, and the benefit of analyzing data in data team meetings:

From those very first charts that we had hung up that caused lots of crying and lots of tissues and lots of stress and all that. Now we've just come to where we keep all that more or less in our notebook, and we discuss it amongst each grade level. So rather than publicizing it to the world or the whole school, or whatever, we talk about [results] in our data teams. Because it's not about humiliation or embarrassing someone because their teaching is not as strong. It's about what we are going to do to get a person's scores moved up and what type of strategies can we help them with in the classroom so that they can do better?

Analyzing data and planning instruction and interventions based upon the data have progressed with time, and teachers have expressed that rich collaborative conversations have helped them to figure out the data analysis process. F4A5 noted, "We finally realized that we could test and test and have stacks and stacks of data, but if we did not take the data and do something with it, it was all for naught. I mean, there was no reason." Since the implementation of common formative assessments, SR10 surmised, "This campus has become data focused. We are more aware of what the students needs are and how they learn."

Document analysis and interviews suggested data is thoroughly analyzed, enabling teachers to focus upon the unique learning needs of every student. The instructional coach has taken each diagnostic and predictive assessment and assigned a corresponding GLE to every question, so when common formative assessments are

analyzed, teachers know exactly which GLEs are evasive to each student. Having a regular scheduled data team meeting facilitates the data analysis process. F5B2 explained, “We go through our diagnostic and formative assessments with a fine-tooth comb, knowing exactly which students are not meeting exactly which GLEs.” SR6 explained the process:

We evaluate our data by looking at each question, which is labeled with corresponding GLEs and listing the students who did not score proficient or advanced on that particular question. We will then reteach the skill to the group of students who did not score [proficient or higher] and retest. We will repeat the process several times until the skill has been mastered. We do this for each GLE that is not mastered during small group instruction time.

Once the common formative assessments have been scored, the principal charts the data by teacher. Teachers expressed this is motivating to them, and it encourages them to share instructional strengths and address instructional weaknesses as a team. SR2 noted, “The principal holds the teachers accountable for their own scores. Graphs, charts, and other data is collected and sometimes circulated at meetings.” F4A1 concurred, “[The principal] breaks this stuff down by teacher...so that also is something that... motivates you a little bit, and too, I think each of us have our strengths, and we learn from each other...” Analysis of data charts by teacher and the principal interview comments corroborated this practice “I do charts; I do colored graphs you can tell where every teacher’s [class] in a grade level is [scoring]. It’s not about competition. It’s about getting those people that aren’t where they need to be, where they need to be.”

*Supporting students who struggle.* While teachers at Intermediate Elementary do not formally pre-assess students prior to instruction, an Acceleration Plan fosters the development of balanced classrooms and enables teachers to have a foundational understanding of student needs prior to instruction. Document analysis of the acceleration plan revealed the plan identifies much information in regard to past student performance and instructional interventions, even including specific math and communication arts GLEs that students have not mastered on the previous year's assessment.

Teachers initially utilize the acceleration plan, then common formative assessment data to make instructional decisions in the classroom. F5A3 explained, "Did the whole class not understand that? If so, then you reteach the whole class. If it's just a few kids, then do a small group lesson." In describing the next steps in instruction after a common formative assessment has been scored, 100% of teachers who responded on the survey stated they reteach skills that have not been mastered. The use of small group instruction was crucial in attaining the increased achievement success at Intermediate Elementary. Re-teaching students in small groups and working one-on-one with students as needed is a common, daily practice. Every teacher has a kidney-shaped table at the back of his/her classroom and the vast majority of interventions take place within the regular classroom setting. All teachers are expected to provide small group instruction around GLEs that are not mastered. SR15 explained what this looked like in her classroom:

I will analyze each student's scores for each question on the assessment. I will look to see which skills/GLEs they are successful and/or struggling with. Those who are struggling will receive small group instruction to reteach a particular

skill. All results from formative assessments guide my instruction and planning for lesson plans.

F5B1 commented, “I would say a lot of times when you’re pulling them back, that’s where they work better, is in a small group. They need that one-on-one attention and just having you in front of them will make that difference.” SR6 posited, “We will repeat the process several times until the skill has been mastered. We do this for each GLE that is not mastered during small group instruction time.” The principal explained the building has shifted from a focus on “teaching” to a focus upon “learning”:

“...the statement used to be made, ‘I’ve already taught that.’ That was one of my least favorite statements, I guess, by a teacher, when I would say, ‘But the child needed help and you didn’t help them with it.’ We no longer focus on what our teachers have taught. We focus solely on what our students have learned and it’s a totally different mindset. You haven’t taught them anything if they haven’t learned it. You might have read it to them, or you might have told it to them. You haven’t taught it to them until they have gained the knowledge to be able to use that skill.

Small group instruction within the classroom setting is very flexible, driven by student mastery of each specific GLE. F4A4 explained, “They may be back there a lot, or it may be that they just didn’t understand that concept. And that’s the only time they’re really back there with you.” According to F3B2, “Instead of just determining the way we place [students], we use the data to tell exactly how to group them and use that to [guide] our small group instruction. I like the way we are doing things. It’s made us better teachers, I think.”

Teachers utilize a wide variety of teacher created mini-lessons when re-teaching a concept in a smaller group setting. Commercial resources are also available for teachers to use for supplemental instruction, with Study Island lessons heavily utilized for review of each GLE during the second semester and re-teaching them to mastery. The Acuity system from CTB/MacGraw-Hill detects when a student has failed a standard, based upon a percent determined by the teacher, and has the capability to automatically assign a reteach worksheet to a student. Teachers also rely upon reteach materials from *Buckle Down* and *SkillBridge*, two commercial resources aligned to the state GLEs and designed to help students prepare for success on the state assessment. F5B2 shared, "...And the L.D. [Learning Disabilities] teacher is really good for ideas, you know, to kind of simplify things in a way that we aren't really thinking of. So we utilize her a lot, also. She also eats lunch with us, so she shares her ideas as well."

This wide variety of instructional resources provides necessary support for busy teachers. Furthermore, the instructional coach, and a paraprofessional, who serve at each grade level, provided welcomed support for teachers in many ways. They may teach a lesson that enables the teacher to work with a small group or provide one-on-one and small group instruction that follows the GLEs outlined in quarterly pacing calendars. Students who are extremely low receive extra interventions from the building reading specialist or instructional coach. 53B4 shared:

There are some that fall through the cracks when you have them tested [to qualify for special education services], and you can't send them anywhere else. So they can't get any more help. And that's why we are fortunate enough to have [the

instructional coach] and [the reading specialist] that we do send them to because they are so low, they wouldn't possibly fit in even our lowest group.

While many resources provide teachers support in differentiating for struggling students, resources for teachers to enrich students who perform above grade level peers are less plentiful. Differentiating at the high end often includes peer tutoring, independent reading with an appropriately leveled book, or, at times, computer instruction. While these activities do provide some enrichment, teachers concede that this is an area of differentiation that has not received a lot of focus. F3A4 revealed, "Because we hit the middle so much, the high kids kind of get left, and the low—I mean the target. It's the target student [we focus upon]. F4A1 shared:

I don't want to say we leave our top students out. I mean, sometimes, if my kids are making 100s and I am re-teaching, you know, I'll let them go to the computer. They can pull up things on the computer to do instead of sitting there and listening to the lesson over again. But it's like she said, I mean, there's one of us in the classroom.

Intermediate Elementary intentionally targets students who are barely proficient or close to attaining proficiency to receive extra interventions aligned to the GLEs taught each week in the regular classroom setting. The rationale being that these students are the most likely to attain proficient levels on the end of year state assessment, which will help the school meet annual adequate yearly progress targets identified by the state department of education. After school tutoring and individual instruction provides additional support for students who fall into the target range. F3B1 explained:

After school tutoring does a lot to reinforce our daily skills...because whatever we have taught for the week, tutoring follows our pacing guide. They may have missed [the concept] with me, but they might have another teacher who can...explain it a different way.

F3A4 recognized the support that tutoring and small group instruction provided, “You still might have to take some baby steps to get to that GLE before you’ve taught it, if they don’t know the smaller steps to get to the main GLE.”

Study Island, a highly engaging, computer-based program is a re-teaching tool teachers use extensively in the spring as they review GLEs for the state assessment. Study Island provides a lesson plan for each GLE for every grade level at grade level, below grade level, and above grade level. Interviews with teachers and analysis of documents revealed that teachers rely heavily upon the printable worksheets, which are formatted into mini assessments student take after instruction. F4B3 reported, “With the Study Island [reviews], the tests are shorter. You know, you have more of a chance for children to succeed and make improvements.”

Student incentives are abundant at Intermediate Elementary. Every classroom teacher prepares Study Island sticker charts or personal folders to chart mastery of GLEs—charts that are very motivating to students. These charts are aligned to each specific GLE and students are rewarded with stickers when they attain a proficient score. F3B1 explained, “They would record their original score, then they would record their remediated score. The [students] I would work with were happy to improve—they noticed that they had bumped up and then they the got their sticker.” F4A2 concurs,

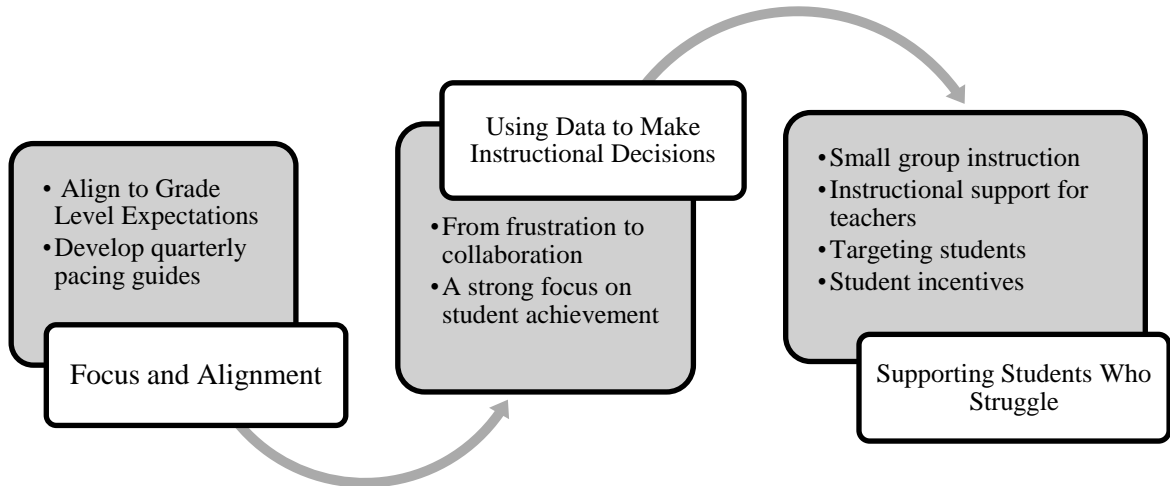
“We re-teach, small groups. We pull them back to a horseshoe table and reteach. We set goals. We keep sticker charts.” F4A1 added:

...Even some of my lower students, they still get tickets. I mean if I’ve seen that they’ve brought up a score from a 50% to a 60% they get a ticket. Some of them are never going to hit that mark, but they need to feel like they’re growing too, and they are. So we give tickets and at the end of the week I have an auction...and they are so excited, they cannot wait. It’s exciting for them.

SR6 simply stated, “The willingness of the teachers to differentiate instruction for the students is what makes this school a great place to learn for the students. It requires much more work from the teacher, but the outcome of learning is much greater for the students.”

*Summary.* Data teams were established at Intermediate Elementary, affording teachers the structure and time to collaborate and plan for assessments and instruction. By closely aligning the taught curriculum to include only specific grade level expectations, teachers were able develop quarterly pacing guides that allowed them to focus daily instruction, eliminating many of the additional concepts that are presented in a grade level textbook. Administering regularly scheduled common formative assessments, which were also aligned to grade level expectations, enabled teachers to carefully analyze to what degree students were mastering the curriculum that had been taught. Using data results from these assessments provided teachers with the specific knowledge necessary to go back and reteach essential skills with students who had not learned skills at proficient levels. By providing small incentives and positive, encouraging feedback, students are motivated to give their best effort. These common formative assessment

practices, coupled with strong leadership support and a positive, caring culture, have facilitated a 29 % gain in math achievement on the state assessment over the past two years. *Figure 5* depicts the common formative assessment process that was implemented at Intermediate Elementary School.



*Figure 5.* Common formative assessment process.

*Research Question Two*

What kind of leadership is evident in the use of common formative assessments that contributes to the mathematics achievement of students within this school?

When the current principal joined the faculty and staff at Intermediate Elementary School, she became the fifth principal to lead the school in as many years—walking into a culture where low student achievement prevailed and the school climate was one of defeat and frustration. This frustration was expressed by focus group discussion member 5B1, “We had a while there where we changed administrators, like, four years in a row. So it was—it was difficult then.” Presently, in her seventh year as principal, she is

described as a source of support for both teachers and students alike. One teacher, SR7, wrote “We have a wonderful principal who works with teachers and provides us with the necessary tools to achieve success!”

Focus group discussions, leadership interviews, document analysis and observations during the onsite visit revealed four predominant types of leadership facilitated the effective implementation and use of common formative assessments at Intermediate Elementary. First, renewal leadership helped to facilitate the significant changes in curriculum, instruction, and assessment that were imperative for the successful implementation of common formative assessments. Moral/Ethical Leadership provided both teachers and students with the courage and motivation to take risks with new teaching and learning practices. Instructional leadership provided teachers the valuable structures and resources necessary for successful implementation and effective use, while distributed leadership broadened the leadership base, providing additional support for teachers, leaders, and students.

*Renewal leadership.* Findings from the data depict a principal who worked diligently to support and guide the faculty and staff of Intermediate Elementary as they implemented the changes in curriculum, assessment and instruction necessary to increase student achievement in mathematics. The principal received extensive professional development surrounding effective practice and involved a leadership team in this training as well. As a result, new knowledge was introduced, providing new strategies for curriculum, instruction, and assessment. SR6 posited:

Our principal has definitely been the reason we as teachers have been able to teach our kids in a way to achieve success. She has attended several seminars and

devoted much time to find new methods for teaching what our children must learn.

F4B2 concurred; noting the strategies the principal and building leadership team attained while attending the Turnaround Specialist program at the University of Virginia was a key factor for change:

I think it started with [our principal]. When I first started here, I didn't even know what a GLE was. And then she came in, and it just started with 'Okay, this is what we need to do,' you know? It just has to start from the top, you know, and it did.

Complete buy-in by the faculty and staff was the new expectation. All teachers believed the changes in assessment were mandatory and they were aware everyone was expected to get on board. IIC shared, [The principal] said, 'That's how we're going to do it here at Intermediate Elementary, and if that's not how you want to do it, ...that's fine, but you need to move on.'" F3B1 concurred, "I don't think any of us in this room ever felt like it was an option—you just had to get on board. I think maybe some were reluctant or didn't want to, but we all made the change."

While the changes were necessary and expected, it was a transition that was not without unrest. F3B4 noted, "There was a lot of anxiety, a lot. It was very scary to see a veteran teacher who had been here 14 years who didn't really know what she was doing...it was scary." F5A1 responded:

I think, too, when it all comes down to it, we didn't want [our principal] to lose her job. You know, we wanted her here. We liked our administration. We didn't want any of that to change. And we all like the teams we worked with, and

we didn't want any of that to change. So it was either we all get on board and support each other or, you know, you're going to jump ship and you're going to be by yourself.

Throughout the change process, the principal restructured both time and resources to foster the successful implementation of common formative assessments.

The principal expressed the biggest hurdle in implementing change was restructuring the building by replacing some teachers that chose to leave:

The teachers that didn't want to buy in, that didn't want to follow suit, that didn't think that it was going to work, that were very negative and weren't willing to do their part. When you've got three-fourths of a building working, working, working, working—and then you've got a small portion that have been here forever, and they think they know it all and not being able to get them on board. And so it worked well in this district that some of them could move to another campus. Some retired.

Six of seven teachers at the fifth grade level were new to the fifth grade team the following year. F5A3 recalled, “Last year, aside from [one teacher], the whole fifth grade team was brand new to fifth grade. We had taught previously in other grades, but...so we did a lot of sharing, and still do. We had to work together to make it through the year.”

The Teachers at Intermediate Elementary expressed appreciation and respect for the principal and her leadership through the change process. This was evident during focus group discussions, interviews, and survey responses. F4A1 reflected, “If we didn't

have a leader like her, we wouldn't have made it through. We've cried, we've laughed. We've done everything together, and she's been right there with us..." F4B2 agreed:

I just felt like I could go to her and just ask her. I wasn't embarrassed, you know? Like, 'I need help with this skill. What can I do?' And it's just not 'You're not doing your job right,' or 'You're not getting good scores.' It was 'What can I do to help you?' Now I really feel strong in our GLEs. I can tell you exactly what I need to do—because it's been given to me and I've been taught what to do.

Analysis of the data revealed the principal demonstrated a deep commitment toward the common goal of increasing student achievement and fostered this commitment in others. When asked to describe the most significant change that has taken place within the last three to five years at Intermediate Elementary that resulted in increased student achievement in mathematics, SR5 stated, "[Our principal]. She is dedicated and supports us. Her attitude encourages us to give it our all!" F5B2 assented, "I think we've grown every year, especially since [our principal] came to our school district. SR15 stated:

Everyone has a common goal. It is not a competition between teachers, [we are] a family. The students know that everyone is working for them. I feel the students understand that they are here to learn and to receive the best education possible, but they have to work as hard as the teachers do to get the most out of it.

The principal shared that "learning how to read [formative assessment] data, interpret the data, use the data," and helping others to use the data has been her biggest accomplishment at Intermediate Elementary. SR15 agreed, "Mandatory data meetings have been the most significant change. We meet weekly to review data and discuss new

strategies and opportunities to improve student learning. Our principal, counselor, and instructional coach are the key people who have implemented this change.” F5A4, reflecting upon the change, shared, “And then in turn, of course, the winner of it all is the kids, you know.”

*Moral/ethical leadership.* With the implementation of common formative assessments, a distinct shift from a focus upon teaching to a focus upon learning has taken place. The Intermediate Elementary staff works collectively to meet the needs of the students they serve and these values were expressed by the principal, “I told them early in the year that if they weren’t going to buy-in and do it, they better start looking for something else next year...because we’ve got to do what it takes to get our kids where they need to be.” SR13 concurred, “Starting at the top. Our administrators, counselors, and everyone on this campus want what is best for our students.” The principal reflected:

...the statement used to be made, ‘I’ve already taught that.’ That was one of my least favorite statements, I guess, by a teacher, that ‘I’ve already taught it.’ When I would say, ‘but the child needed help, and you didn’t help them with it.’...we no longer focus on what our teachers have taught. We focus solely on what the students have learned. And it’s a totally different mindset. You haven’t taught anything if they haven’t learned it. You might have read it to them, or you might have told it to them. You haven’t taught it to them until they’ve gained the knowledge to be able to use that skill.

One characteristic consistently used to describe building administration was the high degree of support shared with both teachers and students. Survey responses and observations revealed the significant amount of support the principal provides for her

staff. SR2 reported, “She strongly suggests that we get ‘on board’ and make things happen with enthusiasm and rigor. Whatever a teacher or student needs, our principals will find a way to get it done...they are most willing to help in anyway possible.” SR11 added, “I really like our administrative staff on campus. I don’t feel threatened by them or intimidated. I feel supported in every area.”

SR6 noted, “The support of the administrators is vital to the atmosphere of the school. It allows us to do our jobs and gives us flexibility to teach in a way that is best for students.” SR5 agreed, “Our principal is dedicated and supports us. Her attitude encourages us to give it our all.” The principal explained, “Anything that I can do to take it off the teachers. I try to lessen their load because I feel like they have all they can do in the classrooms, especially for the last several years.” The principal believes the cornerstone for continued student achievement at Intermediate Elementary is that “teachers actually feel like what they are doing is right.” IIC concurred, “It’s just your whole mindset changes because you know that you have to do it and it’s so important to you.”

The school counselor and instructional coach also provide much support with the common formative assessment process. The instructional coach revealed, “I feel like the best way that I can help them is to give them ways to help in the classroom and make it easy. Because you know as well as I do, teachers don’t have enough time to do half of what they need to do, you know?” The school counselor plays a large role in motivating students to do their very best work by planning motivating assemblies and developing and working with the principal to implement an annual testing theme for end of year achievement testing. In addition, both ladies help distribute information from conferences

and support students by meeting the health, emotional, and learning needs of individual students.

Faculty and staff spoke freely of the genuine care the principal exhibits toward staff and students alike. SR14 stated, "...she is very involved in all aspects of the building with both staff and students." A comment from a paraprofessional making copies in the faculty workroom revealed a leader who facilitates open communication. "Her office is always open. I know that I can enter her office at anytime and air a concern or grumble and she doesn't hold it against me. She just allows me to vent and then move on. I stay here in this building because of her." The principal works diligently to be available to her staff and to foster open communication. She shared:

I have a group on my phone, and I text message them when they're supposed to wear a certain shirt to school or whatever they need to do. Or if there's anything, when—if we have a death or an illness in the building, us or our families, I keep them all up on that so that they know exactly what's going on.

SR1 stated, "She is always encouraging high academic achievement. I hear a lot of verbal encouragement between her and the students." R9 described her as "a principal that is supportive concerning activities at school as well as personal issues in teacher's lives and student's lives." The principal shared that the faculty socializes outside of the school day and enjoys camaraderie at school. F4A2 commented, "[The principal] rewards us like we reward our kids. She works hard, too. The principal was observed eating lunch with grade level teachers, engaging in conversation and sharing in the discussion. It was evident through this observation that dropping by at lunch to chat with teachers was a common practice. F4B2 simply stated, "We love our principal." F4A1 agreed:

She loves us. She loves these kids. I mean, you may see her out dressing them or [helping them with their hygiene]. I'm just telling you, she does everything. Or you might see her with a mop cleaning up throw up in the middle of the floor. I mean she does everything. And that is why when she asks us to do something, we can't say no.

A paraprofessional shared a story of a time when a teacher who had transferred to another building in the district was having surgery. The principal called the paraprofessional at home, picked her up, and both of them went to the hospital and stayed in the waiting room until the surgery was over.

The faculty and staff frequently referred to the "shoulder-to-shoulder" work ethic that is characteristic of the principal. High visibility, hands-on leadership, and a willingness to pitch in and serve wherever needed has earned the building principal much respect and support from the faculty at Intermediate. F4B1 exclaimed, "I'm sure you know we have a really good principal. She doesn't ask us anything that she wouldn't do herself." SR11 expressed:

Our principal is found working amongst her staff. She's not hidden in her office, but in our halls, classrooms, and playgrounds. She saves her office work for after hours. Throughout the day she's helping us. She's even helped me with my small groups. She's not your typical principal. As a teacher who is qualified to be an administrator, I find her as my role model and appreciate her greatly!

SR13 replied, "Our principal doesn't ask us to do anything that she won't do herself. She steps up to the plate and backs us. We can go to her and we know she will listen and help in any way she can." IIC posited, "The principal and counselor are knee

deep working just as hard as teachers –they try to make it as easy as possible to do it, while, at the same time saying, ‘You've got to get the job done.’” F3B4 stated, “We have a great boss. Call me a suck up, but she works hard. That gives us the drive to keep going. It’s important to her, so it’s important to us.”

The assistant principal is supportive as well; however, his leadership duties primarily entail supervision and discipline. The building principal explained:

He does the majority of the discipline, as he has always done. He supervises all recesses, all lunches, handles all that with the kids, and I have handled mostly the teachers and the curriculum and whatever else needs to be done. He and I both have the leadership style if something needs to be done, we’ll do it. We’ll mop the floor; we’ll do whatever needs to be done, just to get it done.

*Instructional leadership.* The formal mission statement for the district outlines the foundational beliefs that drive the instructional practices that are prevalent at Intermediate Elementary:

...We believe that one size does not fit all; as a result, our instruction must be geared to provide the specific needs of each student. We will work diligently toward meeting the state and federal standards while challenging all students in the process. We commit to a comprehensive system of support to assure this outcome.

Developing the building schedule to support collaboration through the data team process enabled teachers to implement common formative assessments and the differentiated instructional practices outlined in the district mission statement. Data teams provided the structure and focus teachers needed to learn and implement new practices. Every focus

group interview revealed the building schedule provides opportunities for collaboration during plan periods with half of each grade level sharing a common plan period daily. Data Teams meet every Wednesday and are comprised of half of a grade level's teachers. Teachers also have a common lunch period with at least a portion of a staggered lunch schedule spent with the entire grade level team. Teachers expressed a deep appreciation for this time together and shared that they often choose to collaborate outside of the weekly data team meetings. Observations and focus group interviews reveal that team camaraderie and open sharing is ever-present during lunch conversations, which include sharing on both a professional and personal level.

The principal is a data-leader who continually analyzes assessment scores and offers feedback to teachers, providing resources as needed to help teachers to succeed. She is actively involved in the data team process and holds teachers accountable for effectively implementing common formative assessments and the interventions that are driven by instruction. SR14 responded, "Our principal holds weekly data meetings to discuss progress or areas of concern with each teacher in regards to their scores on predictive tests." SR6 concurred, "We have weekly data team meetings that [our principal] is actively involved in, looking at scores from each class and discussing possible ways to reteach those GLEs where the students performed a little weaker. SR5 replied, "She personally looks at our classroom data and holds us responsible for our results. We know that data will truly be assessed, not just thrown away or forgotten." SR12 agreed, "She is very knowledgeable in the area of testing and skills that need to be taught. She sits in on our weekly data team meeting. She is willing to do anything that the teachers think would us help reach our academic goals."

The instructional coach types the weekly agenda and shares formal leadership with the principal. The instructional coach explained, “I implement Acuity. That’s really my job. I’ve learned how to use it. I’m pretty much the “go-to” person. We use our data meetings for Acuity and data, but we also use them just for general school information.” SR5 agreed, “Our [instructional coach]...leads our data team meetings, attends meetings on data and MAP testing, creates tests, and supports us. She takes our problems that we encounter and helps us find solutions. SR12 also appreciates her support, “She is very helpful in making sure all testing is an accurate reflection of what needs to be taught and what is being taught.”

A significant shift in instructional practices has evolved with the implementation of common formative assessments. SR8 explained:

Our entire style of teaching has changed in the past 3-5 years. The curriculum is based on teaching the [grade level expectations] each level is responsible for making sure their students master the GLEs. Every teacher is expected to teach in this manner. Our principal expects this and is *very* supportive and eager to help teachers accomplish this goal.

The principal is a visible and ever-present leader who protects teacher’s instructional time and closely monitors the teaching and learning activities that foster student success. She actively monitors teaching and learning to ensure teachers are utilizing assessment data to inform instruction and reteach students who need additional support. SR3 responded, “She has us turn in pacing guides before each quarter starts. She visits our classrooms frequently and checks our lesson plans.” SR15 agreed, “[Our principal] is always open to new ideas. She frequently visits classrooms and observes

teaching styles.” SR12 also noted, “She looks at all testing results and we turn in lesson plans each week that are GLE coded. The teaching must line up with our pacing guides as well as our test results.”

Classroom visits occur regularly, as the principal observes instructional practices and provides useful, relevant feedback to teachers. SR13 noted, “Our principal requires the very best of us, which in turn requires the best of our students. She meets with us individually to discuss our weaknesses and helps set up a plan to correct and fix our shortcomings.” The principal explained, “It is not unusual for me to spend a half a day in a room or a whole day in a room or go down and help a teacher with a lesson or whatever I think needs to be done. Because it’s very hard for me to go into a classroom and see it where I think—what I think is happening is not effective and just sit quietly. Before it’s over with I’ll be up at the board teaching the lesson. But I just feel like that’s learning, hopefully.”

The principal encourages teachers to share their instructional knowledge and does not hesitate to supervise a class to enable another teacher to observe a colleague teaching an exemplary lesson. When visiting classrooms and observing an exceptional lesson, she will often encourage her teachers to share resources and strategies during data team meetings. SR15 remarked, “She shares and allows the teacher or teachers to present any new strategies, techniques, websites etc. that have been determined to be successful.”

The principal explained:

I expect them to do that. But I know we all get so caught up in what we’re doing that we don’t always share those good things. But we need to share the good

things that we are doing because then it's good times seven, rather than good times one. And we're passing the kids on with that amount of knowledge.

Teachers and the principal alike value the contributions the assistant principal shares by handling classroom discipline. SR7 explained, "Our assistant principal is an important part of [intermediate] school because he takes care of the discipline at our school. Without him, the teachers would be taking time away from teaching to deal with the problems he takes care of for us."

*Distributed leadership.* Empowering others with new knowledge was paramount for the successful implementation of common formative assessments at Intermediate Elementary. The principal selected a building leadership team consisting of the school counselor, the instructional coach, a classroom teacher and herself to attend the Turn Around Specialist training. Intermediate Elementary was the only team present at the training that involved building faculty as opposed to the regular teams of district and building-level administrators. This training provided the new knowledge and skills that served as a springboard for implementing Common Formative Assessments at Intermediate Elementary. SR13 shared, "We have been involved in the Turn Around Specialist Program. [Our principal], two colleagues and I all attended training for the last two years and we came home with lots of ideas and strategies." SR11 shared; while the principal was pivotal in implementing change, key stakeholders were also a part of the change process:

Our campus developed a leadership team and later formed data teams. We worked collaboratively and found the best ways to break down our data. Our

principal was key in this movement. We found that once we worked together, our opportunities to change student achievement increased.

The principal has teachers at every grade level that she relies upon for guidance and direction, seeking the opinion of the staff. She commented, “I really, really work hard to give everybody their share in the say and in group decision-making because I feel like it makes them stronger. If they’re in on those decisions, it makes them want to excel and do better.”

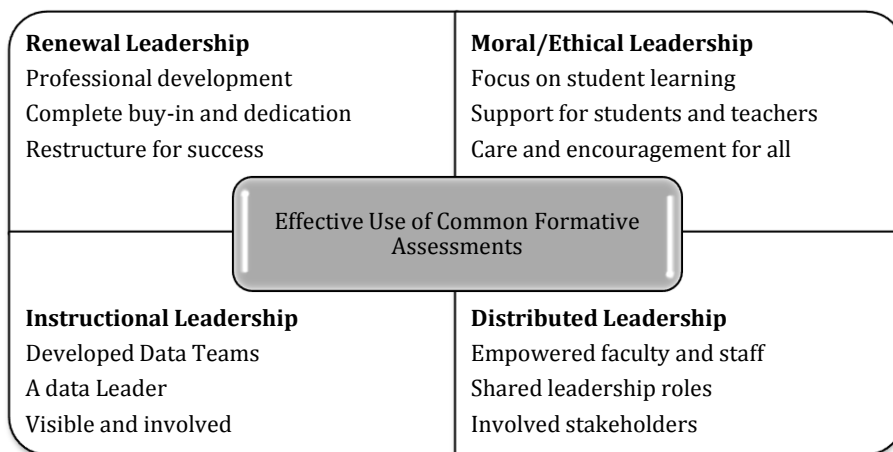
Focus group discussions, interviews, and analysis of data team agendas revealed the data team meetings are lead by the building principal and the instructional coach. F4B2 commented, “The [instructional coach] has an agenda for each data meeting. She has it ready. [The principal] comes in and they lead the meetings. We always bring our data notebook and they keep us on track.” While this team structure suggests traditional leadership roles, the responses on surveys indicated ideas and information were consistently shared during weekly data team meetings, encouraging shared decision-making, and teacher ownership. SR3 stated, “[Our principal] usually asks us our opinion about everything and values our feedback. We, as grade level, get to set our own pacing guides and determine the best way to teach each skill.” SR6 offered, “Most of the time ideas are generated at data meetings. We throw ideas around and discuss the ideas of others and make it a collaborative process.” SR12 concurred, “During data meetings and staff meetings our input is taken, and we make decisions together.” SR5 explained, “Data team meetings are our chance to join in the process. We share information and ideas as well as gain new insights.”

Two distinct leadership roles are shared with the instructional coach and the building counselor. The instructional coach has actively encouraged teachers to share beneficial websites, fostering tacit knowledge and increasing instructional capacity. She also developed charts and tools teachers could utilize to help analyze and use the data. F4A1 commented, “She broke it down to something we could actually use and helped us understand what we were doing and that was a great help.” The school counselor shares in leadership by facilitating the state achievement testing process, planning celebrations, and organizing the after-school tutoring program. SR1 remarked, “[Our counselor] analyzes quite a bit of information for the teachers to help us in the classrooms. SR9 shared, “She organizes the annual state achievement testing as well as plans and assists the principal with celebrations. SR14 agreed, “ She is very involved with the state achievement testing process and is responsible for coordinating testing. She also is responsible for organizing the after school tutoring program and creating a target list of students who need tutoring services.”

The principal shares leadership with stakeholders by ensuring that newsletters and information are consistently sent home to families and by working collaboratively with a parent group to plan for state achievement test celebrations and student rewards and recognitions. She is a local girl who is well known and respected in the community. SR8 commented, “You can tell when out in the community she is well liked. She is from here and knows everyone and never forgets a face. She is always available and willing to help.” SR11 notes: “Like I said earlier, she is found across the school doing what needs to be done. She knows *everyone* [in the community] and is not afraid of anything. She will go to any neighborhood at any time of day to do what needs to be done.” F3B1

concluded, “She can solve any problem or any crisis for anybody. She does anything and everything or knows someone who can.”

*Leadership that facilitates the use of common formative assessments.* The building principal, with support from a building leadership team, shared a vision and high expectations for implementing common formative assessments at Intermediate Elementary. The impetus for change was to get out of school improvement by significantly increasing student achievement, and, ultimately, to ensure growth in learning for all students. Necessary changes to the building schedule, providing assessment and instructional resources, and dedicating leadership support for teachers helped to facilitate the implementation of common formative assessments. By closely monitoring instruction and the assessment process, teachers were held accountable for implementing assessments and supporting students based upon assessment results. The structure of the data team process encouraged rich collaboration, accountability, and ownership by the faculty and staff. The graphic in Figure 6 depicts the four types of facilitative leadership predominant at Intermediate Elementary.



*Figure 6.* Types of leadership that facilitate the effective use of common formative assessments.

### *Research Question Three*

What characteristics of organizational culture contribute to the effective use of common formative assessment in this upper elementary school? Several cultural characteristics supported the implementation of common formative assessments at Intermediate Elementary. First, reculturing to make improvements resulted in some resistance to change. However, teacher collaboration proved valuable, facilitating common expectations and shared knowledge. High expectations for teachers and students fostered increased achievement and school pride. In addition, regular celebrations and incentives proved to be motivating and encouraging for students and staff alike.

*Reculture.* Teacher buy-in was crucial to effectively implement necessary improvements in curriculum, instruction, and assessment practices. Initially fraught with stress and anxiety, some resistance to the change was ever present. F5B1 shared, “Everyone panicked at first.” F5B2 quickly commented, “Well, because it was so different. It was so data driven...and numbers, and we were not used to that at all. Yeah, everyone panicked.” These changes impacted how teachers utilized curriculum, instruction, and assessment within the classroom setting. F4B2 explained, “It was for some, harder than others because some people don’t like change, and it took [expectations for change] from the top down to get the job done and to get everybody on board, and it didn’t happen overnight. It’s a process.” The principal concurred, “[The most difficult change] was getting complete buy-in. Because I had it from the majority, but it doesn’t take many of those naysayers to ruin every meeting, to bring the whole attitude, morale, everything down”. F4A1 agreed the change was hard on the faculty at

first, “It was a little stressful in the beginning. But I think we all knew that we had to do something because what we were doing was not working.”

The changes that have taken place at Intermediate Elementary School have been significant ones. Implementing new curriculum, instruction, and assessment practices have required much work; however, teachers expressed that their work has become more meaningful with increased focus and purpose that has resulted in higher student achievement. SR8 described the impact this change had upon the classroom teachers:

Our entire style of teaching has changed in the past 3-5 years. The curriculum is based on teaching the GLEs, and each level is responsible for making sure their students master them. Every teacher is expected to teach in this manner. Our principal expects this and is *very* supportive and eager to help teachers accomplish this goal.

Analysis of the data revealed teachers appreciate their colleagues and have relied upon them during the change process. F4B2 stated, “I thought about leaving a couple of years ago. I mean I was so stressed out over all this change and everything going on. And this is one reason I didn’t, because we’ve got such a support group. You know, I love these ladies. I do. They’re like—they’re my family.” F4A3 agreed, “...we are concerned about each other’s kids, both in our classroom and our kids at home.”

With the implementation of data teams, many positive changes have taken place at Intermediate Elementary School. First and foremost, mathematics scores have increased by 29%, meeting adequate yearly progress target scores for all subgroups. Data team collaboration has also brought focus and purpose to instruction. F4A2 shared:

Change is hard...but now it's second nature. It's just what you do. We couldn't go back to teaching how we were teaching five years ago. We couldn't even go back in that mindset because it wouldn't make any sense to us. We would know we were wasting our time.

With the success of increased achievement and moving out of school improvement status, teachers see pride and ownership beginning to take hold. F4B2 surmised:

I think they're taking it more serious now. And [the students] want to be advanced. They want to be proficient. Even with the diagnostic test, when I would give them back their scores, you know, you could actually see a lot more pride in kids. I felt like when we first started and when we were so low, that the kids didn't care. They didn't have any pride...but I think we've raised our pride and the kids; they want to make us proud.

Observations supported a high degree of school pride and ownership throughout the building. This was evidenced in the respectful, attentive student behavior in classrooms and in non-academic settings. Furthermore, engaging bulletin board displays revealed school pride was ever-present at Intermediate Elementary. A few examples included the following phrases: "Students who are...thinking achieving, responsible, succeeding"; "These boots are made for working!"; "Yes, we can! Make advanced or proficient!" and "Can't stop, won't stop, STOMPING the [state achievement test]!". Bulletin boards in teacher work spaces also revealed a focus upon learning for all: "Teach, encourage, instruct, mentor, praise, influence, guide, inspire"; "If you keep using the same strategies

and the students keep failing...who's REALLY the slow learner?" and "To boost learning, MORE of THEM and LESS of YOU is BETTER."

*Collaboration.* Teachers have greatly benefitted from the increased collaboration that has taken place with the implementation of the data teams and the common formative assessment process. ISC posited, "Data teams has helped open the doors as far as the conversations go. So we always collaborated before. It's just a different level. I don't think it'll ever be the same. We're permanently changed forever." Every focus group discussion revealed that common prep time, common lunch times and recesses were opportunities for collaboration and planning. The building principal consistently schedules weekly data team meetings. Analysis of the study data indicated data team discussions revolved primarily around data analysis from common predictive and diagnostic assessments. These discussions encouraged teachers to plan instruction and activities to better meet student needs. F4B1 shared, "We plan together. We have a set of GLEs that we focus on for the first quarter, and we have a set of GLEs we do for the second, third, and fourth, quarter."

Teachers explained they are continuing to refine their pacing calendars and that they continue to become more effective every year. They also shared that the collaborative work they do together in teams get easier as they become more familiar with the processes. F3A2 contended:

Once we started teaching the GLEs and what we needed to teach, our job actually got easier. [Other schools] are teaching a textbook and the textbook covers so much more than what you need. So instead of teaching a textbook, that's where

we pulled out our GLE's and we started teaching just what we had to and making sure that that was a learned skill for all.

All six focus group discussions indicated teachers shared effective instructional practices and resources on a daily basis. As a result, tacit knowledge continues to develop, which in turn improves teaching and learning across grade level teams. F5A3 commented:

Last year all of us except for one of us were brand new to fifth grade. We had all taught previously in other grades, so, we did a lot of sharing and still do. I think that's one of the reasons why, too, because we had to work together to make it through the year, you know? But we do work a lot together and tell each other different ideas or things that are working in our classroom—we share everything.

F4B1 explained, “We always share with each other or you know, ‘This is what I did today,’ or ‘I really like that idea,’ you know. We’re a very sharing group.”

F4A3 noted, “We even share with different grade levels, you know, especially like fourth and fifth grade.” F3A5 agreed:

And let me tell you, if I say [to a colleague] ‘hey, what did you do with—or how did you teach symmetry? My kids are just not getting symmetry. What can I do? What did you do? Do you have a website?’ Because I’m a SMART board lover, okay? I am hands-on, you know. Lecture just doesn’t get it in third grade. We touch everything. And so she sends me---I mean, we just share so much.

F4A5 commented, “Something else that we’ve started in here, and we’ve kind of done it as much as we can this year, is the websites. If someone has a really, really neat website they’ve found, we’ve tried to pull it up or we’ve shared it during the data

meetings. Especially if it's a GLE that they really have a heard time teaching." F3B1 agreed, "If someone comes across a worksheet or a website, I think we are very quick to pass it around. I mean, I just feel like we always share."

Teachers also indicate they are very willing to pop into each other's classrooms to clarify instruction or seek guidance on something that is confusing. They consistently share instructional resources with each other and work diligently to pace instruction together. F5A1 explained:

Y'all won't toot your own horns, but...the [instructional coach] will pull kids in. The [remedial reading teacher] will pull kids in. You can go into another classroom if your kids aren't getting something in your classroom, and have another teacher come in and reteach it or send them to another classroom and have them listen to it coming from another source. It's great to work with people who are willing to bounce ideas off each other. I am not a regular classroom teacher and I'm glad to see that. Lots of times I can go to this group of teachers or another set of teachers and go 'hey, I am struggling. Do you all have something else?' And I know they're even willing to help me. So it's really good, they are a good group to work with.

F4A4's comment summed up the shared support collaboration has brought to the teachers of Intermediate Elementary School, "Because we are a team. I've taught without a team, and it's not easy when you are completely on your own."

*High expectations.* A large majority of survey respondents believe students put more effort on classroom assignments based upon the common formative assessment practices utilized at Intermediate Elementary. SR2 commented, "We have created an

atmosphere where students must *always* do their best. By implementing this kind of environment children will be positive and believe in themselves. It is simply a matter of getting them to think on a higher level than they ever thought possible.” SR11 shared a story that illustrates the high expectations and supportive culture fostered within this building:

After many years of teaching, I recall a situation that happened early in this school year. It was mid February and we were in the dead heat of vivid learning. We were working through Study Island lessons and testing [each student], and students that scored below 80% would go to the guided reading table and the lesson [would be] retaught to them in a different way. One particular student failed a second time. I pulled him to the side and tried another approach to the lesson. He failed again. I called him to my desk and told him that one of my team members was going to work with him. He said ‘Mr. [teacher’s name] why haven’t you given upon on me yet?’ I replied ‘I’m not throwing you to the side until I see an 80% or higher.’ [The student] said ‘you teachers here are serious!’ It took two team members later, but we found an approach that worked for him. He gleamed from ear to ear when he placed his sticker on the chart.

The majority of the students at Intermediate Elementary give their best effort on classroom assignments. This is due, in part, to the high expectations the staff shares with students. SR13 shared, “Students in general try to do their very best on assignments. Students want to do well.” SR7 concurred, “We teach students that not doing something is not an option. They must try their best. Since they know what we expect, from the principal to the teacher, they know what they are expected to do.” SR3 commented, “I

feel we hold the kids to high expectations. We make certain to focus on the GLEs, which in turn make the students more successful at each grade level. We also reward them and have fun with them for working to the best of their abilities.”

Classroom teachers share that communicating the importance of their best work, paired with the knowledge that they will have additional support if needed, helps to encourage students to give their best effort. SR15 observed, “Classroom assignments are no longer fluff—they are given based on what skills and standards need to be taught.” SR3 declared, “I feel we hold the kids to high expectations. We make certain to focus on the GLEs, which in turn make the students more successful at each grade level.” SR3: indicated, “We treat various assessments as though they are just as important as the [state] test. They know they have to accept responsibility for their grades and if they don’t succeed the first time, they will have to keep working on it until they get it.” SR2 explained, “I *inform* the students that these assessments are *very important* and involve them! *Most* want nothing more than to please the teacher. Just explaining that we have to succeed and letting them know we are in it together.”

Teachers are moving beyond merely attaining the proficient or advanced levels required for Adequate Yearly Progress, rather, they are looking to see if all children make gains and demonstrate growth throughout the year. IIC posited:

You know, they might still be in basic, but if they’ve moved up 20 points—that’s gain. I do feel like that is something that we’ve worked on this year. There has been more discussion of not just proficient or advanced. That’s what we want because it keeps us out of hot water. It’s also that we’ve made gains across the

board, that our children that are below basic might be right on the cusp of being basic. I mean, you know, that's major in itself.

By looking at growth rather than merely percentage of students scoring proficient or advanced on the state assessment, teachers can ensure that all children are learning to their highest potential. The building principal agreed:

We expect growth, and we give recognition on growth because we're aware that all kids aren't going to be proficient by 2014. That's probably not going to happen—there is a subgroup in there that's not ever probably going to see an advanced or proficient because that's not their ability level. But what we want to see is those kids moving from low basic to middle basic, middle basic to high basic, high basic up into proficient. We want to see growth. They don't learn at the same level, and they aren't going to have the same knowledge when they come out of here. But we do our very best to push them to their highest potential.

Teachers at Intermediate Elementary are held accountable for the scores their students receive on common formative assessments. Every teacher's scores are graphed and distributed to the entire grade level. Increased accountability promotes self-reflection and shared knowledge across each grade level team. SR10 shared, "Classrooms are compared with graphs and we are asked to share our knowledge with others to strengthen teaching techniques." The principal shared, "Teachers know they are accountable. And I think that is the whole piece. They know those scores are going to come back and have their name at the top of them." IIC commented:

I think if anything, it makes people accountable for what they are doing. I think that's what the principal tries to do more than anything, is to let everybody know

that we're not doing that to embarrass anybody, but we're doing that so that you can see that 'Hey, there are people that are over here that are doing really well. So you might need to see what they are doing.

Distributing individual teacher scores across grade level teams can also be very motivating. When asked how the building principal ensures that classroom instruction is driven by assessment results, SR11 responded, "The dreaded Bar Graph after every predictive testing. LOL. We see how every member of the team scores. If that doesn't get you to analyze what needs to be worked on, nothing will." IIC posited, "We are at a time now where our teaching has to be driven to what the kids are supposed to know at the end of that level. It's just a different time period, different era, really. So that's the way that you have to teach."

Building classroom rosters is a careful consideration at Intermediate Elementary. Anticipation guides are utilized to ensure that every teacher receives a balanced classroom with a variety of ethnic minority, free/reduced lunch, at-risk, and mixed ability levels within each classroom. Parent requests for specific teachers are not allowed. By leveling the playing field through balanced classrooms and closely monitoring teacher's scores, the building principal sends a strong and powerful message that utilizing formative assessment results to differentiate instruction to support student learning and foster achievement is the expectation. She shared an example:

One time I took their names off the colored charts and handed them out, and I let them pick out which class was theirs. I think that they have to be aware of where their kids are, not me. I mean I know where their kids are, and I look at them, but I just took the teachers' names off and I handed them out and said, 'I need you to

find your class and put your name beside it.’ I just want them to know where their kids are. If you don’t know where your kids are, there’s no way you can help them get where they need to be. And so they have to be aware that their kids are or are not getting these skills.

Closely monitoring classroom instruction enables the principal to support teachers who struggle and also reinforces building expectations. IIC explained,

If there are teachers that are having issues, I mean, that their scores are not where they should be, [the principal] meets with them one-on-one... she’s been known to go into classrooms and sit in the back of the room and do a lot of observation and then talk to the teacher about ‘well, this is what I’m seeing, and this is why.’

Increased teacher collaboration has been a positive outcome from sharing individual data across grade level teams. Teachers rely more on the expertise within the team to problem solve and share resources. By observing the data by teacher it is easy to identify those classrooms where students scored particularly well in each area. The accountability creates new urgency to share knowledge and resources. ISC explained:

The first thing, if we’ve got some data to look at, just what it is that’s not causing those individual students to raise their achievement. They might ask another teacher what they’ve used to remediate, or they start comparing their scores. They basically are just looking at any way—they’re willing to try just about anything to raise student achievement, no matter what. If the general instruction doesn’t get it, what else they can do to raise it.

In efforts to meet Adequate Yearly Progress with annual assessment scores, and to assist teachers in raising the achievement of students most likely to make gains,

students who are close to proficient, or whose scores fall into the low range of proficiency, receive additional support with one-on-one instruction and/or after school tutoring. IIC explained:

We do try to really concentrate on the children that we feel like that we can keep proficient or move into proficient, those target kids. We do. I mean, those are the children that I work at, the ones that [teachers] felt like if they just had that extra confidence, extra boost, extra—you know, that they might be able to make it in, and stay in proficient. And that’s what we look at in our things. Where are those kids that are proficient, but they are [just] teetering [between proficient and basic]?”

The end of year assessment is a high-stakes assessment for every school district. At times this results in practices that place more effort and support with students who are just barely proficient or almost, but not quite, proficient. This practice may not meet the needs of students who score far below basic, or far above proficient—two groups who would also benefit from differentiated instruction. This year, in order to better meet significantly low performing students, special education teachers are piloting the *iReady* assessment system for students with individualized education plans. Special education teachers believe this assessment system is more appropriate for students who score significantly below age-level peers.

While one assessment result does not embody all learning that takes place at Intermediate Elementary, teachers recognize the significance of this test as it relates to their school’s adequate yearly progress status. The SR4 shared:

When [the state assessment] rolls around we approach it with a good attitude. We jump in to prepare and get students involved, rather than to gripe and complain.

We don't love what the test has become, but we know we have a job to do and we approach it in the best way possible. Our attitude affects our students and we are well aware of our impact upon the student body.

*Caring Relationships.* Teachers expressed one of the best ways to motivate students to give their best was by showing that they care, outlining expectations, and offering specific, verbal praise. SR3 shared, "Taking care of their basic needs first and giving them the respect that I would want in return. I try to teach them to become proud of their work without expecting rewards all of the time, but from time to time they are given special privileges and treats when working to my expectations." SR12 stated, "We discuss everything...why we take the test, why we need to do our best on the test. I ask them to work to do their very best because it is a reflection on our school, their teacher, and on them."

The staff takes time to visit the home of each child before the school year starts. Moving outside the boundaries of the school setting and into the home environment increases teacher's understanding of individual student needs and facilitates positive relationships and communication with students and their families. F5B2 commented, "[Home visits] help us to understand maybe what they're going through more, to see where they come from and what they have to deal with at home." SR11 shared:

Students are blessed with a staff of the best teachers in [our region of the state].

The staff works their hearts out through the school day, often forfeiting their own time and money to make sure their students succeed. Our staff isn't afraid to take the extra step to get parents behind us. We do home visits every summer and the visits continue. Conferencing continues through the year in many forms: phone

calls, [additional] home visits, electronic conferences through email, texting, and class room blogs/face book pages. Students are a priority at [Intermediate Elementary].

F4B2 posited, “I think that’s really a big key to just overall success—I really do—is having that parent contact. I have had parents that probably would never have contacted me if I hadn’t contacted them first, you know, but they reciprocate.”

“F4B1 contended, “I feel like they have our back now, because you know, we have gone to their house and that we listen, we’re here for them. We help a lot of kids and their families.”

With slightly over 70% of the student population qualifying for free/reduced priced lunches, meeting both the personal and academic needs of students is a priority at Intermediate Elementary. Meeting personal student essentials often includes meeting the needs of students’ families as well. In 2009, the school counselor started a “Backpacks for Friday” program. Noticing that many of the discipline problems at Intermediate Elementary were frequently from the same families, the counselor started inquiring with students and discovered they were hungry. Determined to do something, the counselor partnered with the regional food bank to purchase food in bulk to provide weekend nutrition for approximately 20 families of six. The food bank compiles the menus, and once a month delivers food, assembled and bagged, ready for the counselor to drop into a backpack and send home for the weekend.

Intermediate Elementary School students come to school with a wide range of academic needs. SR7 explained, “We have a very diverse culture at [Intermediate] School. We have kids who come from poverty and [have] no parents to help them, and

we have the extreme opposite. Overall the teachers work very hard to make all of the children feel special and that they are no different from one another.” SR3 expressed, “The teachers care and we dedicate our time and ourselves to our students. I think it shows.” F4A1 commented:

They’ll work for you. You know, I mean, they work for us. We love them.

They know we love them. Bottom line, that’s my philosophy of teaching: Love a child into getting them to do anything you want them to do. And most of the time if they know you care about them, they’re going to work for you.

SR13 shared, “My students know that I love them and want them to do their very best, whatever their best is. My students want to do well. If your students trust and believe in you, you will get their very best.” F4B2 agreed, “If they know you care, they work hard to make us proud. And they know it because we tell them.”

When asked what makes Intermediate Elementary a great place for children to learn, SR4 responded, “The love and dedication of the teachers. I think students feel very comfortable and loved at this school.” SR14 concurred, “All staff have a genuine concern about the students who attend our district. We all want each student to achieve their personal best and reach success in all that they do.”

Going the extra mile beyond ‘educating’ is, at times, part of the job at Intermediate Elementary. The principal described a time when the school counselor and teacher believed that a man living with a child’s mother was physically abusing the child. The principal and the counselor repeatedly contacted the Division of Family Services (DFS) with their concerns, eventually threatening to go after his job if he did not do something to protect the child. The DFS finally acted, mandating that the man in the

home leave the county and return to Texas. Using food from the summer meal program, the principal and counselor delivered food each evening to the family's trailer. Educating the mother, the principal sought support for the family, who eventually moved from the un-air conditioned, cramped, trailer into government-subsidized housing. The entire staff pulled together to provide furniture, including beds, for the family. The saying "Students don't care what you know, until they know how much you care" is echoed by many of the faculty and staff. F4B1 revealed:

I've got one little boy this year—he is smart, he just didn't care because no one at home cared. He did horrible on his first diagnostic test. I went to him and said, "You know, you can do better than this. Can you do it for me? If you're not going to do it for yourself, can you do it for me?" Since then, he has made A's and B's and he is working hard.

When asked what makes Intermediate Elementary a great place to teach, SR5 replied, "The faculty and principal! We are all on board to make this a successful school. We care about our students." SR3 shared, "we have a supportive staff and administration which makes me want to be a part of our school and have pride in what we are doing." SR1 agreed, "I believe all the teachers on campus strive to challenge each student. We don't accept mediocre, we accept the very best from each student!" SR11 shared:

For me, Intermediate Elementary, unlike other districts I have worked for, has a complete staff that is in tune with each other, which care for each other, and would do anything for each other. We have fearless leaders, fearless teachers, and thoughtful classified staff that do "what it takes" every day, every minute, and often times, on their own time.

SR15 concurred, “The administration and staff--everyone is working for one common purpose—the students!”

When teachers were asked to share words that most students would use to describe the climate at [Intermediate] Elementary, “fun,” “caring,” “safe,” and “awesome” were the most commonly listed responses. SR11 noted, “Students would describe [Intermediate Elementary] as a caring, fun, and safe place to come and learn. [Intermediate] is a place where students know we love them, we care for them. And they also know we expect their best every day.” SR13 replied, “We maintain a safe learning environment, pleasant surroundings. If you walk through our halls, you will hear teaching and learning.”

*Recognition and celebrations.* The principal regularly celebrates success with teachers and students alike. SR6 commented, “She acknowledges teachers who do well, she provides rewards to the children who work hard to prepare for the state achievement test, and she is always there when we as teachers or students need her.” Observation notes also detailed the principal serving pizza during each lunch shift to students who met their quarterly Accelerated Reading goal.

One phrase that consistently helps to share the culture of high achievement at Intermediate elementary is the annual state achievement testing theme, which is complete with school wide t-shirts, bulletin board displays, and a motivational kick-off assembly. The school counselor develops an annual theme that is celebrated in the weeks leading up to testing. This year’s theme was “Can’t Stop, Won’t Stop!” A spin off of the Journey 1981 single *‘Don’t Stop Believing.’* F3A5 commented, “Everybody in the school has on

the same t-shirt, all of the kids and the teachers. We all match; you know it's just school pride. It's just taking pride in your school and supporting your school" SR11 explained:

Our theme this year was "Can't Stop, Won't Stop." After many years of failing and finally gaining freedom by being placed out of School Improvement, we found this a noteworthy phrase. The students knew that our school had succeeded, but also knew that momentum couldn't fall or we would fall behind. In my classroom I use the phrase, 'To Proficiency and beyond!' just before testing and decorate my bulletin board with this Phrase. [Intermediate] Elementary is a very special campus. Coming from a district that could care less [about] the achievement of their students, I find pride in working at [Intermediate].

Many additional celebrations surround the annual state assessment each spring. Survey responses and observation notes recorded that a favorite celebration of students is dancing to the Electric Slide, the Wobble, and other popular line dances in the gym before the testing day begins. SR8 explained:

Before the day begins in the classroom, each grade level goes to the gym and participates in a 15-minute dancing time to get them up and moving and ready for the day's academic challenges. This is lead by a parent from the community. I might add...this year she didn't even have a child at [Intermediate Elementary].  
Another example of our community support in getting the job done!

At end of the testing sessions, students who were at school during every testing session, prepared to test, and did their best work on the test were treated to a field trip to a Christian activity center with retro video games, a climbing wall and multiple sporting activities, and snacks were made available to students. If the school makes Adequate

Yearly Progress, the entire school journeys on a field trip in the fall. Past trips have included traveling to watch a professional baseball game and visiting the Aquatic Center. Students also enjoy small rewards from the state assessment review, which takes place in February, by earning stickers for mastering each GLE. Teachers provide a wide range of rewards for meeting goals within the classroom, including: pizza coupons, dollar tree items, edible treats, and five minutes of extra recess time.

Intermediate Elementary teachers expressed appreciation for each other and enjoy spending time together outside of the school day. They routinely participate in retreats to adjust pacing guides before the school year begins and enjoy annual Christmas parties and birthday celebrations each month. Alluding to the close relationship the faculty and staff share, F4A3 mentioned, “we talk about lots of other things besides school when we’re together.” SR4 summarized the climate of camaraderie by musing, “All I can say is we are a family here at [Intermediate] School!”

Many other occasions call for celebration, including the daily hard work teachers put into preparing students for the end of the year state achievement test, through the formative assessment process. F4A1 contended, “ You know [the principal] knows that we work hard, and you know she kind of makes sure we have a celebration. It’s just like during the [state achievement test] she knows how hard we’ve worked to get ready. She herself cooked two meals for us.” F4B1 agreed, [The principal], she feeds us during the [state achievement testing process], you know, to keep us going and happy. And then the parent group will sometimes send snacks for us.”

Intermediate Elementary School recently received recognition from the board of education for the great gains they have made the past two years in student achievement. F3B2 reported, "...we just went to the board meeting, you know, the board recognized [Intermediate] school, and then that will be in the paper." F4A1 shared, "[The School Board] got us a big plaque with our names on it and they had a nice lunch for us last Friday. They had a barbecue for all the teachers. After our scores came in we had a big party and [the principal] came."

*A culture that fosters the effective use of common formative assessments.* The change that took place at Intermediate Elementary was significant, and at times difficult, but well worth the benefits both teachers and students have experienced. The implementation of common formative assessments have facilitated the focused teaching and learning that have increased student achievement and made teaching more meaningful as teams rely on each other for support and resources.

The building schedule provided daily opportunities for collaboration, which occurred frequently during weekly data team meetings, at lunch, and other common planning periods. This collaboration has encouraged teachers to share effective instructional practices, increasing shared knowledge and encouraging common, high expectations for both teachers and students across entire grade level teams. Intermediate Elementary has established a caring climate that nurtures, supports, and celebrates both the students and the staff who work there.

*Figure 7* illustrates the characteristics of organizational culture that promote the effective use of common formative assessments at Intermediate Elementary School.

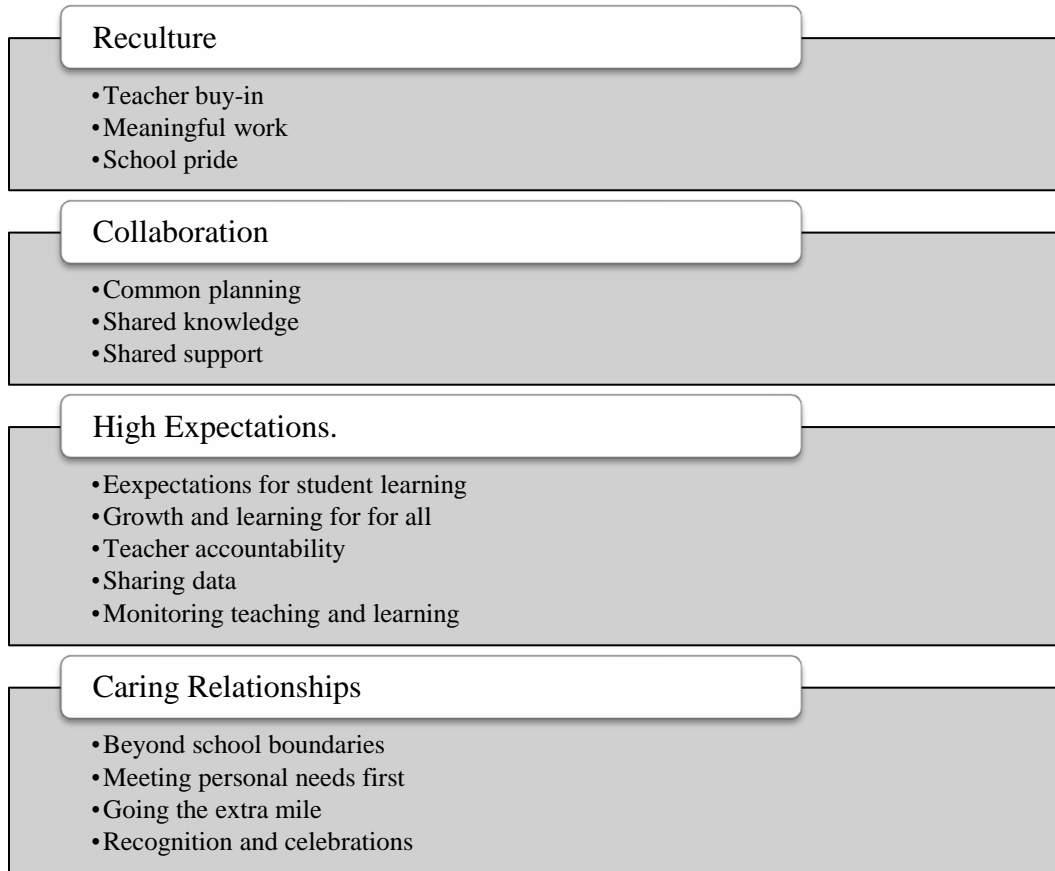


Figure 7. Characteristics of organizational culture that contribute to the effective use of common formative assessments.

*Summary*

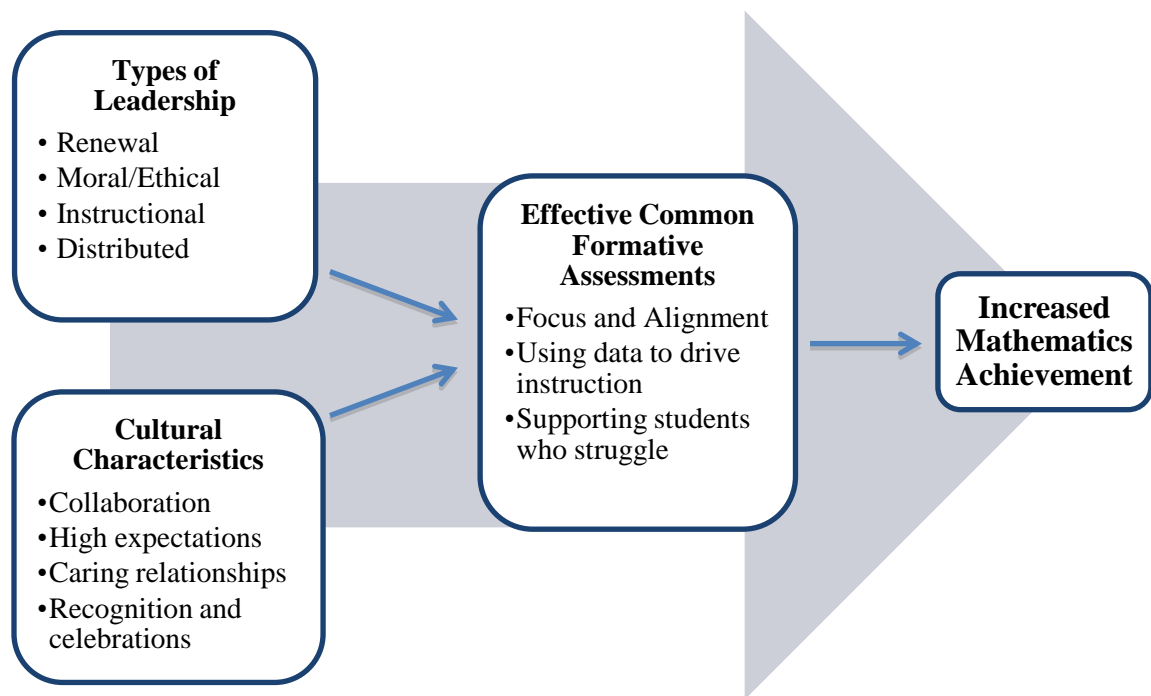
The implementation of common formative assessments at Intermediate Elementary has enabled both staff and students to bring about the achievement gains in mathematics and communication arts that is necessary to meet Adequate Yearly Progress benchmarks as determined by the state department of education. These benchmarks were established in response to the *No Child Left Behind (NCLB) Act* of 2002, federal legislation that forced schools to improve their student achievement on standardized test scores or face sanctions that included the loss of funding, school restructuring, or ultimately, school closure. Intermediate Elementary, a Title I school in level six school

improvement, restructured daily instructional practices and assessment practices utilized in efforts to meet the *NCLB* requirements.

The school improvement process at Intermediate Elementary School was successful for a wide variety of reasons. While change can be unsettling, creating feelings of anxiety and uncertainty, the faculty and staff understood the need for change, and most were receptive to the hard work that was necessary to make improvements. Teachers who were not, moved on. The principal, instructional coach, school counselor, and leadership team were very supportive, providing the structure, resources, and encouragement teachers needed as they implemented common formative assessments. Teacher collaboration facilitated the alignment of grade-level standards to daily instruction and the common formative assessments utilized to measure student achievement. Data analysis was focused and purposeful, providing teachers clear direction for whole group instruction and small group interventions.

High expectations were the norm for staff and students alike. Teachers consistently held students to high standards, coupling these expectations with affectionate care and increased support. A renewed focus on teacher accountability included the expectation for teachers to provide additional small-group and/or individual instruction for students who struggled. Leadership and data teams actively monitored student results by grade level and by teacher to ensure these practices were in place. By re-teaching essential concepts to students, the majority of students were able to attain proficient levels on essential grade level expectations. After-school tutoring, remedial one-on-one instruction, and continued collaboration and shared knowledge between teachers provided additional support, which helped both teachers and students succeed. Most

importantly, while the need to get out of school improvement provided the initial motivation for change, Intermediate Elementary is moving beyond the need to merely attain the proficiency levels needed to get out of school improvement. With the implementation of common formative assessments, growth in learning for *every* child is becoming the focus that guides daily instructional practices. *Figure 8* recapitulates the discoveries revealed throughout this study.



*Figure 8.* Leadership, culture, and assessment practices that foster increased mathematics achievement.

The purpose of this study was to explore how one upper elementary school utilizes common formative assessments in ways that contribute to sustained improvement in mathematics achievement. This study also explored the types of leadership that facilitated the effective use of these assessments and identified the cultural characteristics

that contributed to effective assessment practices, and ultimately, an increase in mathematics achievement. Chapter Four provided a review of the purpose of the study and the research questions that guided data collection. A description of the study setting, study participants, and the tools utilized to collect the data were included. Findings from the study were presented for each research question by detailing the emergent themes and patterns that emerged throughout the data collection process.

Chapter Five presents a brief introduction to the study and the study design. The purpose of the study follows, with a discussion of the findings that emerged throughout the data collection process. The review of related literature presented in Chapter Two is revisited and interlaced throughout the discussion of findings, and also informs the implications for future practice. Chapter Five concludes with an examination of the limitations of the study and a discussion of recommendations for future research.

## CHAPTER FIVE

### DISCUSSION

#### *Introduction*

The implementation of the *No Child Left Behind Act* on January 8, 2002, required each state to create and administer an annual standardized assessment at each grade level in grades 3-8. Schools failing to meet adequate yearly progress with assessment scores would face channels that may include loss of students, loss of federal and state funding, required school reform, and possible, complete school reorganization and school closure. In the fall of 2009, Intermediate Elementary, an upper elementary school serving students in grades 3-5, was in level six school improvement and facing school restructuring. In efforts to raise student achievement in communication arts and mathematics, Intermediate Elementary implemented the use of common formative assessments.

Common Formative Assessments are teacher-created assessments that are administered, scored, and analyzed by collaborative teams of teachers. The purpose of these assessments is to provide shorter assessments, aligned to district and state standards, periodically throughout the school year. Collaborative teacher teams analyze assessment data, and information gained is used to differentiate instruction as needed for students, providing support for flexible groups of students with specific learning needs (Ainsworth, 2007).

The effective implementation and use of common formative assessments requires educational leadership. Reeves (2007) contended the question school leaders must address is not “What shall we do to improve student achievement?” This is already clear. Rather, we must focus on the remaining questions, ‘How do we implement and sustain

practices and policies that support improved student achievement?” (p. 227). A meta-analysis by Seashore-Louis (2010) identified core leadership practices considered instructionally helpful by high-performing principals and teachers. Three specific practices were perceived as especially important: Focusing the school on goals and expectations for student achievement, keeping track of teachers’ professional development needs, and creating structures and opportunities for teachers to collaborate. The instructional practices that facilitated the implementation and effective use of common formative assessment in this study will be fully explored in efforts to inform both leadership and instructional practice.

In excellent schools, teachers and leaders share a common purpose and rally around a common goal. Multiple studies have indicated schools of excellence develop a strong focus upon learning and student achievement (Fullan, 2002; Reeves, 2009; Schmoker, 2006). School cultures that are defined by a collective moral purpose believe that all students can learn, and it is this very purpose that compels leaders and teachers to make improvements within their schools. These educators strive to make a difference in the lives of these students and work hard to close the achievement gap between students who struggle and those who do not. (Fullan et al. 2004; Hargreaves & Fink, 2003). Teachers in schools of excellence participate in dialogue around instructional practices. These teachers analyze data, plan lessons, and share instructional practices (Bruffee, 1999; Buffan et al., 2009). This study will reveal that many of these cultural characteristics were evident at Intermediate Elementary and promoted the effective use of common formative assessments.

### *Purpose of the Study*

The purpose of this study was to investigate the premise that the use of common formative assessments played a significant role in the sustained achievement gains in mathematics at Intermediate Elementary School. The review of related literature and the implementation of common formative assessments at Intermediate Elementary provided the basis for this assumption, from which three research questions were developed. First, how does Intermediate Elementary utilize common formative assessments in ways that contributed to sustained improvement in mathematics achievement? Second, What types of leadership is evident in the used of common formative assessments? Finally, what characteristics of organizational culture contribute to the effective use of common formative assessments?

Throughout this study, the researcher sought to illuminate the common, everyday practices that enabled this school to effectively implement common formative assessments in ways that promoted increased mathematics achievement. A typical, average-sized, rural school was selected in hopes that the strategies utilized by this district could easily be replicated in a similar, typical, average-sized district. The researcher intended to use the findings from this study to provide practical, realistic strategies that could be utilized by other school leaders and teachers in their efforts to increase achievement in mathematics.

### *Design and Procedures*

This project studied faculty perspectives of the implementation and use of common formative assessments and the types of leadership and cultural characteristics that foster the effective use of these assessments. The researcher sought permission to

conduct the study and was granted permission from the building principal. This study involved interviewing, surveying, and observing human subjects; therefore approval for the study was sought from the University of Missouri Institutional Review Board (IRB) Data were collected in the form of leadership interviews, focus group discussions, observations, document analysis, and an online teacher questionnaire. The researcher spent three full days onsite, collecting data with instruments including an interview protocol, focus group questioning route, observation guide, and a document analysis guide.

Semi-structured focus group discussions were conducted with six faculty groups at Intermediate Elementary. Each grade level was divided into two data teams, totaling six data teams: two third grade teams, two fourth grade teams, and two fifth grade teams. Leadership interviews were conducted with the building principal, the instructional coach, and the school counselor. The instructional coach and school counselor were selected to participate in a leadership interview for their role in the implementation and practice of using common formative assessments. A focus group questioning route and an interview protocol were created and used during discussions. Both focus group discussions and interviews were audio-recorded and transcribed to ensure accuracy of recalled data.

Observations were recorded throughout the onsite visit. An observation guide was developed and utilized to focus and categorize field notes. Several documents were collected and photocopied for analysis. A document analysis guide was utilized to categorize documents both during and after the onsite visit. Observation field notes and documents were thoroughly read, with repeated phrases, words, and ideas, written in the

margins, then color-coded by research question. Documents included: assessment reports, recently published articles from regional, state, and national periodicals, school data as reported to the Department of Elementary and Secondary Education, state assessment documents, data team agendas, pacing guides, lesson plans, diagnostic/predictive assessment scores by teacher, tutoring placement criteria, various predictive/diagnostic assessments, data team schedules, a sample student acceleration plan, and various predictive/diagnostic assessments, and data analysis documents.

An online Faculty Perception Survey was distributed to the faculty of Intermediate Elementary shortly following the site visit. The survey contained 16 open-ended response items designed to elicit additional perceptions regarding the types of leadership and cultural characteristics surrounding the implementation and use of common formative assessments. Survey responses were reviewed, categorized by question, and color-coded by research question.

#### *Summary of Findings*

The three research questions that guided this study were fully addressed through the collection and analysis of the data: First, the data revealed how common formative assessments were implemented in this building and the current practices that surround the effective use of these assessments to increase student achievement in mathematics. Second, data indicated four types of effective leadership facilitated the implementation and use of these assessments, and finally, findings suggested four major cultural characteristics contributed to the implementation and effective use of common formative assessments at Intermediate Elementary. Findings from the study supported the basic assumption that the implementation and use of common formative assessments did

contribute to sustained improvement in mathematics achievement. The data identified many school and classroom practices that facilitated the effective use of these assessments, which have been embedded into daily practices at Intermediate Elementary.

The focus and alignment of curriculum, instruction, and assessment to the Grade Level Expectations was instrumental for the effective use of common formative assessments. Developing quarterly pacing guides, then, common lesson plans provided complete alignment to the Grade Level Expectations (GLEs). Next, common formative assessments were administered, which were also aligned to the GLEs. Teachers eventually learned, through collaborative discussion and study, to use the data to make instructional decisions, placing a strong focus upon student achievement.

Using data to drive instruction, teachers differentiated by re-teaching students in small group settings and providing one-on-one instruction with students who needed additional time and support with concepts. Targeting students who were barely proficient or almost proficient to receive additional support was a common practice used by this school and enabled the faculty and students to meet state mandated achievement percentages as determined by Adequate Yearly Progress, an obligation for all state public schools. As a result, math achievement on the end of year state achievement test has risen by 29% since the spring of 2009. An exciting outcome for this faculty was the transition toward growth and learning for all students and the increased sense of purpose teachers developed through the use of common formative assessments.

Data indicated renewal leadership was crucial for the effective implementation and use of common formative assessments. The building principal and a leadership team including the instructional coach, the school counselor and a classroom teacher received

extensive professional development and initiated the implementation of common formative assessments. The changes that accompanied new assessment practices were significant, and expectations for complete buy-in were ever-present. Working in a school in level six-school improvement, the teachers of Intermediate Elementary had no choice but to get on board or move on.

A moral and ethical leader, the principal helped to ease teacher apprehension. Her shoulder-to-shoulder work ethic and compassion and encouragement for both students and teachers proved to be a strong motivator for the implementation of a new assessment system. By providing support for teachers, she empowered them to collaborate in data teams and encouraged them to step out, take risks, and learn new practices. Maintaining high visibility in classrooms and being actively involved in the implementation process enabled the principal to effectively monitor and hold teachers accountable for the collaborative teamwork and new instructional practices that supported increased student learning.

The principal effectively distributed leadership by sharing leadership roles with the instructional coach and school counselor. This shared leadership broadened the leadership base, making the change manageable and doable for leaders and teachers alike. She also involved parents in helping to raise funds and plan rewards and recognitions for students. Increased parent involvement provided additional resources to motivate and encourage students and share the vision for increased student achievement.

Research Findings identified several characteristics common to the culture entrenched at Intermediate Elementary. Reculturing was necessary as this building transitioned to the use of common formative assessments and the curricular and

instructional changes, which were a part of this process. Teacher buy-in occurred through necessity and was strengthened by strong leadership support. Increased collaboration and student achievement added meaning to teacher's daily work and fostered school pride for staff and students.

Teacher collaboration evolved through the implementation process. Common planning time was evidenced in focus group discussions, interviews, survey responses, the quarterly pacing guides teachers developed each year, and in the lesson plans teachers used for instruction. The data analysis process encouraged teachers to share best practices and to support each other in the instructional process.

High expectations for student learning was evident in focus group discussions, leadership interviews, survey responses, observations of the school setting, and the analysis of pertinent documents. The message was clear: Teachers were consistently held accountable for their assessment results. Balanced classrooms ensured a level playing field for teachers as the principal frequently analyzed teacher's assessment results and occasionally distributed data by teacher during data team meetings. Frequent classroom visits by the building principal ensured the curriculum, instruction, and assessment practices valued by this building were effectively implemented and utilized. While targeting students close to proficient or barely proficient for additional instructional support through after school tutoring and one-on-one instruction can leave some students with fewer opportunities for differentiated instruction, this practice did help this building meet state achievement targets. A renewed focus upon growth for all students has evolved as teachers became more proficient with new assessment practices.

Caring relationships provided the foundation for the teaching and learning that took place at Intermediate Elementary. Home visits to every child's home prior to the start of the school year established caring relationships with students and families at the outset of each new school year. These relationships are nurtured through the genuine care and support students received from their teachers. The staff recognized that meeting basic needs often must occur before true learning can take place. The school counselor provided weekend nutrition for impoverished families through a "Backpack for Fridays" program. Data revealed going the extra mile to support disadvantaged families was not uncommon at this school.

The faculty is a close-knit group who enjoys the camaraderie and friendships they have developed through their work relationships. These teachers worked and socialized together, providing each other extensive personal and professional support. Data revealed that recognitions, celebrations, and student incentives were common, providing encouragement, motivation and promoting school pride across this building.

#### *Discussion of Major Themes*

Throughout this study many themes emerged around common formative assessments, leadership, and culture that were also explored through the review of academic literature and the conceptual understandings that underpin this study. These themes are presented in this section. First, common assessment practices utilized at Intermediate elementary are discussed. Next the types of leadership that facilitated the use of effective common assessments are conferred. Finally, cultural characteristics that contribute to the effective use of common formative assessments are discussed.

### *Common Formative Assessments*

Ainsworth and Viegut (2006) explained that while assessment is often used to determine mastery, the primary purpose of assessment should be for educators to determine how much progress students are making toward specific learning objectives. In accordance with Hattie (1992) and Reeves (2007), utilizing assessments in this manner, enabled teachers to provide students with timely, specific, feedback that students can utilize to master learning objectives. Research findings indicated the teachers at Intermediate Elementary utilized formative assessments to determine student progress toward grade level expectations, and used the assessment results to inform their instruction, and adjusted instruction to better meet student learning needs (Ainsworth, 2007).

Moreover, the use of common assessments required the identification of essential standards, fostering congruent expectations across the entire grade level and identifying the level of rigor for both instruction and assessment (Ainsworth, 2003; Reeves, 2007). Bruffee (1999) posited that collaborative work encourages problem solving and the exchange of higher-order thinking. Collaborative conversations through data teams have facilitated the development of pacing guides by quarter at Intermediate Elementary. This collaborative work has enabled teachers to assess students for mastery of specific standards and to reteach students who need additional time and support with concepts.

*Focus and alignment.* Many educational experts have posited that common formative assessments should only assess a limited number of essential standards that have been paired down from an entire list of standards (Ainsworth, 2003; Marzano, 2006; Wiggins & McTighe, 2005). Teachers at Intermediate Elementary use the entire Grade

Level Expectations (GLEs) identified for each grade level, opting to include all GLEs in their common formative assessments. Conversely, they use longitudinal state assessment data to prioritize the GLEs, making sure they fully cover the GLEs that are assessed most often.

Responses by staff members revealed a strong focus and alignment of instruction and assessment to the GLEs. The quarterly pacing calendar identifies the GLEs by quarter, which is then used to develop weekly lesson plans. Afterschool tutoring, individualized instruction, and re-teaching assignments are also driven by the GLEs identified in weekly lesson plans. In accordance with the research of Ainsworth and Viegut (2006), this strong focus and alignment fostered clarity and purpose in all instructional activities and provided students many opportunities to master essential skills and concepts.

*Using data to drive instruction.* Schmoker (1999) contended the development of specific, measurable goals, productive collaboration, and consistent collection and analysis of data were three modest concepts at the crux of common formative assessments, and, ultimately, the foundation for increased student achievement. Using data to drive instruction provided the clarity and purpose needed for teachers to truly assess student understanding of essential skills and concepts (Ainsworth & Viegut, 2006).

Teachers at Intermediate shared that learning to use formative assessment data to drive instructional practices in the classroom was a completely new experience that was a little overwhelming and disheartening at first. Initial data charts displayed in the faculty workroom depicted a public display of mediocre performance. Ainsworth (2007) shared that charting data by student fosters teacher accountability. Since that first year, teachers

have become very proficient in the data analysis process and value their data team notebooks, which contain detailed, by-student data results these teams use to plan classroom instruction. Today, teachers consistently utilize data to make instructional decisions and have grown to value and rely upon the information the data provides in regard to student learning.

*Supporting students who struggle.* A meta-analysis conducted by John Hattie (1992) recommended the single most effective strategy that enhanced student achievement is providing students with timely, effective feedback. Stiggins (2007) posited that feedback done right can provide students with the confidence and focus needed to move forward, even when students struggle. Teachers at Intermediate provide encouraging feedback often, differentiating instruction as needed to help students reach proficient levels of mastery over the GLEs. Small group instruction occurs frequently within each classroom with the regular classroom teacher taking ownership of this process.

Differentiated instruction is based upon assessment results and is very flexible. Small group instruction within the classroom setting provides the foundation for most differentiation, with one-on-one student support offered for students who continue to need more time and support with concepts. After school tutoring or extra interventions provided by support staff are also aligned to weekly GLEs (Ainsworth, 20003; Marzano, 2006), and round out the differentiation provided by the faculty and staff at Intermediate. Differentiation for students who quickly master concepts or need enriched material is limited, but teachers indicated peer tutoring is a common strategy that benefits students

who need additional support while also reinforcing knowledge for students who learn quickly and have a good grasp of essential skills and concepts.

### *Types of Leadership*

Effective leaders look to the future to develop vision, values, and goals for the organization. Hackman and Johnson (2000) posited the essential role of leadership is to seek to attain the goals of the group being led; therefore, the goals of the leader and the group should be consistent with one another. Effective leaders provide positive direction and influence when they collaborate with others to identify and reach building goals (Seashore-Louis, et al., 2010). Four distinct types of leadership facilitated the implementation and effective use of common formative assessments at Intermediate Elementary.

*Renewal leadership.* Effective leaders understand that growth and renewal are typical cycles for evolving organizations (Gardner, 2002; Yukl, 2006). These leaders are willing to relinquish practices that may not be as effective, replacing them with research-based practices that have high impact (Mai, 2004; Reeves, 2008). Focus group discussions, interviews, and survey responses identified a leader who set forth a vision, articulated specific expectations, and walked side-by-side with teachers to realize the change that needed to take place. The principal at Intermediate Elementary recognized the need for change and diligently provided the vision, resources, and support necessary for the faculty to implement significant changes in curriculum, assessment, and instruction.

The instructional changes at Intermediate elementary, a school in level six school improvement, were both necessary and mandatory. A meta-analysis by Seashore-Louis

et al. (2010) indicated that distributing leadership across stakeholders has a much higher impact upon student learning than individual leadership. The principal of Intermediate Elementary established a leadership team that received extensive professional development surrounding best practice for increasing student achievement. Restructuring the schedule to provide collaborative time for teachers and implementing the use of common formative assessments brought change that was difficult for many. Six teachers in one grade level left at the end of the first year. Research findings indicated remaining staff became fully committed to these changes, in large part, because of the high level of support they received from the building principal.

*Moral/ethical leadership.* Marshall and Gerstl-Pepin (2005) defined social justice advocacy leadership as a blend of five distinct leadership styles that collectively empowers, advocates and ultimately endures. These perspectives include (a) critical pluralist leadership, (b) transformative leadership, (c) moral and ethical leadership, (d) feminist ‘caring’ leadership, and (e) spiritual/cultural leadership. The analysis of multiple data sources in this study suggested one type of leadership of these five styles was largely present: moral and ethical leadership. Moral and ethical leadership was the predominant leadership framework from which the principal based decision making, utilizing this type of leadership to ensure the implementation of curriculum, instruction, and assessment practices that promoted mastery of essential skills and concepts for all students. The impetus for change was to increase the percentage of students scoring proficient or advanced on the state assessment; however, a shift toward growth and learning for every child, including children who are far below basic and not likely to contribute to building proficiency percentages, emerged.

Focus group discussion, interviews, and survey responses indicated the principal is an active, caring, hands-on leader who provides extensive support for staff and students alike. Teachers shared the principal's enthusiasm, strong work ethic, and active supervision and support with day-to-day instruction is both encouraging and motivating. Data indicated the principal expresses genuine care and concern for the safety and well being of both staff and students. Hargreaves and Fullan (1998) claimed there are four moral purposes of schooling: (a) to love and care, (b) to serve, (c) to empower, and (d) to learn; all four should be utilized to engage all students. Findings from the study indicated the principal at Intermediate Elementary displayed each one of these purposes.

*Instructional leadership.* Leithwood and Duke (1999) defined instructional leadership as leadership that focuses upon the instruction and practices that directly impact student growth and learning. Data collected from staff perceptions at Intermediate Elementary indicated the building principal and instructional coach provide leadership that significantly influences classroom practices that impact student growth and achievement. The building principal and instructional coach are actively involved in the data team process, developing the agenda and co-facilitating weekly data-team meetings. Both leaders provide data from assessments, which teachers analyze and use to inform classroom instruction and interventions. The principal consistently monitors classroom instruction, and teachers are held accountable for assessment results, yet teachers revealed they receive much support and encouragement from both leaders.

A synthesis of research by Seashore-Lois et al. (2010) indicated principals and teachers concurred that providing goals and expectations for student achievement, ensuring professional development opportunities, and creating structures for

collaboration were the most valuable instructional supports. Data from this study indicated these supports were indeed in place, providing the expectations and structures teachers need to inform instruction and promote increased student learning.

*Distributed leadership.* Seashore-Louis et al. (2010) conducted a six-year meta-analysis that indicated in every study in which schools have shown increased gains in student achievement, these schools also profited from capable leadership. Furthermore, schools with higher achievement were more likely to distribute leadership across stakeholders. While the building principal continued to play a significant role in decision-making, she established a leadership team that received extensive professional development surrounding the implementation and effective use of common formative assessments, fostering buy-in and understanding. The instructional coach and school counselor also played a significant role in implementing the assessment process and aligning curriculum, assessment and instructional goals to meet the standards embedded with the GLEs.

Mai (2004) posited teachers must be able to engage in rich dialogue and discussion without fear of divergent thought, enabling leadership distribution to flourish. Furthermore, leaders must be continual learners, staying well informed of research surrounding best instructional practice. The principal at Intermediate Elementary received extensive professional development and involved others in research surrounding best practice. Analysis of data indicated rich conversations were consistently shared in data team meetings, and teachers were strongly encouraged to share best practices across grade level teams.

### *Cultural Characteristics*

The culture of a school embodies the values and beliefs of the people who work within the school, and provides meaning and purpose for the faculty and staff, students, and families who are a part of the school community. Talented leadership and members within the school community intentionally foster positive, motivating cultures— when engaging and caring schools happen, they happen on purpose (Martin, 2002; Schein, 1996; Sergiovanni, 1984). This study revealed four distinct cultural characteristics contributed to the effective use of common formative assessments at Intermediate Elementary: (a) reculture, (b) collaboration, (c) high expectations, and (d) caring relationships.

*Reculture.* The emotional stress associated with change is a reality, even when the change is considered beneficial (Fullan, 2002; Yukl, 2006). While Intermediate Elementary teachers understood the need for the change, many of them spoke to how uncomfortable it was to significantly change the curriculum, instruction, and assessment practices that had been utilized in this building for years. Using words like ‘scary,’ ‘anxiety,’ and ‘difficult’, teachers clearly described the unrest; however, they also indicated the continued support of the building principal and the reliance upon their grade-level colleagues got them through this difficult time.

Fullan and Miles (1992) reminded leaders that significant transition requires understanding, support, and the knowledge that anxiety and uncertainty are a natural part of the change process. Change also necessitates the acquisition of new information, which through collaborative discussions, becomes new knowledge (Fullan, 2001; Nanaka & Takeuchi, 1995). Responses from the staff at Intermediate Elementary School reflected

a tremendous appreciation for the support of the building principal, instructional coach, and counselor for making this transition as easy as possible by providing valuable information, resources and tools that helped teachers to let go of previously held practices and embrace new, more effective strategies.

By communicating how the new changes have improved performance, (Kotter, 1995) contended that leaders provide reasons for people to value the change, embedding the change into the existing culture and sustaining the change over time. The improved state achievement test scores and celebrations that followed provided initial motivation for teachers at Intermediate Elementary to continue change; however, teachers have seen many additional benefits including increased student motivation, focused instruction, and the benefit of collaborative teamwork. These advantages have helped to inculcate these changes into the existing culture at Intermediate School.

*Collaboration.* Both Bruffee (1999) and Buffam et al. (2009) posited that teachers who work in schools of excellence frequently come together to discuss lesson plans, analyze data, and share instructional knowledge and resources. This was indeed the case at Intermediate Elementary School. Teachers expressed they experience ongoing support, share instructional knowledge and resources, and enjoy the camaraderie they have developed amongst their colleagues. Weekly data team meetings provide the common plan time necessary to implement predictive assessments, develop and implement diagnostic assessments, and analyze assessment results, enabling teachers to provide specific, timely differentiated instruction designed to support students who struggle.

Data suggested that ongoing team collaboration around assessment results encouraged teachers to share instructional strategies and resources. The principal, instructional coach, and school counselor corroborated that shared inquiry and subsequent team support were definite benefits teachers experienced. Teachers were strongly encouraged to share effective lessons, instructional strategies, and resources; study findings indicated this is a common practice at Intermediate Elementary School.

*High expectations.* Buffam, Mattos, and Weber (2009), Edmonds (1982), and Fullan (1993) noted schools that establish a culture of achievement for all share a collective, moral purpose, believe in high levels of learning, and focus upon the needs of every student. The culture at Intermediate Elementary has evolved into one where both students and teachers have high expectations for learning and instruction. The alignment of curriculum, instruction, and assessment practices make the learning outcome very clear for both students and teachers alike. By encouraging students to think at higher levels and re-teaching essential, focused skills as needed, teachers send a strong message that only students' best effort will suffice. These practices provide motivation for students to do their best work the first time and reassure students that additional time and support will be forthcoming when students demonstrate a need through formal and informal assessment of student progress.

The Intermediate Elementary principal regularly charts and distributes individual teacher's assessment scores at data team meetings. Schmoker (2006) suggested teachers working in isolation never have to entertain the reality that their colleagues may be more effective in some areas. By sharing results with the entire team, Intermediate teachers

reflected upon their own practices and the successful practices of others through collaborative discussions.

While the positive aspects gained from increased school accountability far outweigh the negative, one negative attribute of increased accountability as mandated through *The No Child Left Behind Act* and the emphasis on high stakes assessments is that it has inadvertently encouraged many schools to focus extra time and resources on a “target” group of students (Public Law 107-110, 2002). The students at Intermediate who are targeted to receive additional individualized support and after school tutoring are students whose assessment scores are most likely to impact district scores as these students are just barely proficient or very near proficiency. Unfortunately this can create a situation in which schools are unable to equally support students at each end of the spectrum—the students scoring far below basic and the academically gifted.

Buffam, Mattos, and Weber (2009) and Wiliam (2011) contend high levels of learning are imperative for every child, and it is the moral obligation of educators to prepare all students for productive careers and education beyond high school. While targeting specific student groups to receive additional support has helped to increase student proficiency levels at Intermediate Elementary School, the school is beginning to grapple with the need to provide more support for the group that has far to go to meet proficient levels. By piloting an alternative assessment system designed to better meet the needs of students with individual education plans and shifting the focus from meeting state proficiency targets to growth for every child, teachers will better meet the needs of struggling learners and will fulfill the innate desire the vast majority of teachers have to really make a difference in the lives of their students.

*Caring relationships.* Stigelbauer's (1992) study of student teachers' perceptions identified the primary reason teachers enter the profession—to make a difference in the lives of students. Data analysis revealed the faculty and staff at Intermediate Elementary care deeply for the students they serve. From personal visits to each student's home prior to the new school year to providing backpacks of food for families living in extreme poverty, the staff recognizes that basic needs for safety, belonging, love, and proper nutrition must be met before meaningful learning can take place.

The faculty and staff expressed appreciation and genuine affection for each other—eating lunch together as an entire grade level on a daily basis. Regular social events outside of school are commonplace, with several teachers referring to their grade level peers as “family.” Fullan (2008) believed “connecting peers with purpose” (p. 41) encouraged ownership and active involvement from teachers. This was indeed the case at Intermediate Elementary and was evidenced in both personal and professional relationships.

Teachers expressed the caring climate that is in place at Intermediate Elementary is a primary reason students work hard and give their best effort. Students routinely enjoy small treats and verbal praise for their hard work and enjoy charting their own mastery of essential skills and concepts with classroom sticker charts. The annual theme surrounding state assessment builds school pride with common t-shirts, motivating bulletin board displays, and a Kick-off assembly before state assessments. Building wide celebrations reward students for their hard work with field trips.

### *Implications for Practice*

The implementation of common formative assessments should be a strong consideration for leaders who desire to increase student achievement scores in their school. The implications for practice are presented for each major theme that emerged throughout this study and are linked to the current research surrounding assessment, leadership, and culture presented in Chapter Two.

#### *Common Formative Assessments*

Black and Wiliam's (1998) meta-analysis of over 250 studies revealed formative assessment is one of the most powerful strategies teachers can use to increase student achievement. By utilizing common formative assessments, teachers at Intermediate Elementary provided timely feedback around specific learning objectives, which pushed learning forward. Moreover, common planning clarified the rigor and expectations embedded within instruction and assessment across the entire grade level. Establishing expectations for instruction and assessment in collaborative teams encouraged increased rigor and relevance in every classroom. Furthermore, when teachers shared common assessments results, collaborative conversations encouraged the sharing of best practice

Leaders who are seeking ways to increase student achievement should place their focus and energy into professional development surrounding the implementation and use of common formative assessments. If already implemented, analysis of current practices for fidelity and purpose would bring to light areas to target for improvements.

*Focus and alignment.* Aligning the taught curriculum to a specific set of standards and developing assessments that are also aligned to common formative assessments is essential to increase student achievement. This requires teachers to

identify specific standards that need to be taught and to develop assessments that are also aligned to these standards. This alignment process should ensure alignment to the state assessment, increasing clarity of instruction and success on annual, standards-based assessment.

Ainsworth (2003) and Marzano (2006) suggested narrowing state and local standards to an identified set of priority standards, by using three lenses to identify standards deemed most crucial. While Intermediate Elementary utilized one specific lens to identify standards, current research suggested selecting standards students are most likely to use throughout life, at the next grade level, and on the state assessment.

Ainsworth (2003, 2004) provided specific, easy to implement strategies and steps leaders might use to identify and “unwrap” priority standards. Identifying high impact standards and deconstructing the standards to identify specific skills, processes, and levels of rigor ensures curriculum, instruction, and assessments are aligned. Teaching with priority standards enables districts to ensure the most important standards are given more emphasis, providing benefits that will go the distance, preparing students for the next level of learning.

Intermediate Elementary aligned support services to the GLEs taught weekly in each classroom. This total alignment of afterschool tutoring, remedial services and one-on-one instruction can provide rich resources for districts that face limited time and resources to support students who struggle and should be a consideration for other districts who implement common formative assessments.

*Using data to drive instruction.* Schmoker (1999) suggested teacher experience, while beneficial in many ways, does not always intuitively predict student understanding

and mastery of essential standards. District and building leaders must ensure teachers utilize data to inform instruction. This takes the “guess work” out of teaching, providing the specific information teachers need to provide purposeful support students.

Furthermore, Reeves (2007) recommended the use of quick, short, formative assessments that enable teachers to provide accurate, timely feedback to students. By testing often, over just a few concepts and ideas, teachers are able to intervene in a timely manner.

The teachers at Intermediate Elementary were intimidated by assessment results at first, not quite sure what to do with the data. However, through collaborative processes, they soon grew to value the information these assessments provided. The implementation of data teams provided the structure and collaborative opportunities for teachers to analyze data together and to engage in rich discussions surrounding highly effective instructional strategies. Therefore, it is imperative for leaders to embed time within the school schedule for teachers to collaborate. Without regularly scheduled collaborative time, collectively analyzing data, sharing instructional knowledge and common planning activities will not take place, thwarting the effective implementation and use of common formative assessments.

*Supporting students who struggle.* The research is clear: Linking descriptive feedback to specific performance criteria increases student learning (Davies, 2007; Hattie, 1992; Marzano, 2006). Bangert-Drowns et al. (1991) revealed when teachers explain why an answer is correct or incorrect and require students to reassess until mastery, learning increases by twenty percent. Providing student feedback through the use of common formative assessments and re-teaching skills and concepts for students who have not attained mastery has significantly increased mathematics achievement at

Intermediate Elementary. Educational leaders, who desire to raise achievement scores, and more importantly, provide the skills students need to succeed at the next grade level and in life, should implement the common formative assessment practices that lead to targeted interventions through differentiated instruction.

Public schools have limited time and resources. By focusing upon specific academic standards, assessing students for mastery of these standards, and differentiating instruction for students who do not master them, leaders can use both time and resources in ways that will support learning for all and eliminate many initiatives that exhaust energy and resources. Furthermore, pre-assessing students prior to instruction can provide the data needed to enrich learning for advanced students, enabling teachers to challenge these students beyond grade level expectations.

#### *Types of Leadership*

A Meta-analysis by Seashore-Louis et. al. (2010) indicated that effective leadership has the power and influence essential to impact student achievement; however, this influence is indirectly related through the collective responsibilities and shared work teachers create through collaborative teams. A key goal for leaders who desire to implement common formative assessments within their schools is to schedule time within the school day for regular, consistent, teacher collaboration. Many additional considerations were revealed through the four prominent types of leadership; each of which helped to facilitate the implementation and effective use of common formative assessments at Intermediate Elementary: (a) renewal leadership, (b) moral/ethical leadership, (c) instructional leadership, and (d) distributed leadership.

*Renewal leadership.* Leaders who desire to improve their schools must understand that continual renewal is required to meet the evolving needs of the organization (Yukl, 2006). The change that occurred at Intermediate Elementary illustrated that implementing reform is not without some degree of difficulty, bringing about anxiety and uncertainty with unfamiliar practices. Strong leaders recognize this as a part of the change process. Providing encouragement, support and resources foster the implementation of new practices, while concurrently setting the expectation for teachers to evolve into new ways of thinking and developing instructional practice.

The principal established a leadership team, which fostered understanding and ownership for the change process. Furthermore, restructuring the schedule by embedding routine collaborative time enabled teachers to work through the change process with the support of their colleagues. Finally, recognizing that some resistance to change is normal will help leaders to continue to pursue excellence. Fullan (2002) surmised a complete absence of resistance to change might indicate that little meaningful change is taking place. School leaders facing change must combine empathy, understanding and support with continued expectations for growth and progress. Using empathy, understanding, and support will provide the healthy balance needed to implement change successfully.

*Moral/ethical leadership.* The essential questions that underpin the work of teachers and leaders should be based upon moral and ethical reasons. Marshall and Gerstl-Pepin (2005) posited that moral and ethical leadership must seek ways to support all students, not merely an advantaged few. Furthermore, Buffam, Mattos, and Weber (2009) insisted it is the moral responsibility of educators to bring all students to minimum levels of proficiency, for their very futures depend upon it. By meeting the learning

needs of all students, school leaders encourage teachers to reach for a higher purpose for educating. Moral purposes provide professional fulfillment and personal satisfaction for teachers and the essential knowledge and skills students need for future success.

The principal at Intermediate Elementary displayed genuine care, concern, and encouragement for both teachers and students. Consistently working shoulder-to-shoulder with teachers, she was keenly aware of both teacher and student needs and worked diligently to provide the support and resources that ensured their success. This type of caring, hands-on leadership is recommended for leaders who desire to support instruction, assessment, and learning in ways that foster both teacher satisfaction and student learning.

Federally imposed mandates to increase achievement scores through the *No Child Left Behind Act* have increased school accountability and encouraged the implementation of effective practices, including the use of common formative assessments. However, the consequences schools face for not meeting mandated targets might promote unethical instructional practices. The school in this study utilized a process for identifying students who were barely proficient or almost proficient, then targeted them to receive additional support and instruction in efforts to increase school achievement scores. This practice leaves students who score at the upper range and the lowest range on achievement assessments with less support, when many of these students require differentiation as much if not more than those targeted for services. Leaders must consider the implication this practice has upon students who achieve significantly below age level peers and significantly above grade level. Ensuring that differentiated practices are implemented across ability levels will promote growth and learning for every child.

*Instructional leadership.* Seashore-Louis et al. (2010) reviewed multiple studies and concluded that effective instructional leadership provides the influence and direction required to increase student achievement. School leaders desiring to implement common formative assessments must first establish a vision, goals for implementation, and provide the professional development necessary for implementation.

Providing structures that encourage on-going collaborative discussions and opportunities to share knowledge and collective work are imperative for successful implementation. Study findings indicated the teachers at Intermediate Elementary deeply valued the collaboration that took place within data team meetings and other common planning times. These teachers have learned to rely on each other for instructional support and resources, sharing effective practices across the grade level team.

The findings from this study concurred with academic literature, suggesting that principals who score high on instructional leadership are visible, visiting classrooms often, and providing feedback to teachers surrounding the teaching and learning processes they observed (Seashore-Louis et al., 2010). Visible, supportive, hands-on leadership is recommended for leaders who desire to effectively implement and sustain the use of common formative assessments to promote student learning.

*Distributed leadership.* School leaders seeking to implement and sustain new practices should educate others and involve stakeholders in the decision-making process. Seashore-Louis et. al (2010) suggested distributing leadership across stakeholders is imperative in providing purpose, direction, and the attainment of goals. By establishing a leadership team, the principal at Intermediate Elementary involved others in

understanding the research-based strategies surrounding the implementation and effective use of common formative assessments.

The instructional coach and school counselor were a part of the leadership team who received extensive professional development. As a result, they assumed specific leadership roles in the implementation process. The instructional coach took ownership of Acuity, the educational software program this staff utilized for the common assessments. Working collaboratively with grade level teachers, she developed tools and resources that facilitated the development of common assessments and the analysis of data. The counselor provided support by sharing new knowledge gained through training and developed themed celebrations and recognitions for performance on the annual state assessment. These building-level roles provided increased understanding, instructional support, and fostered ownership, which were distributed to the rest of the faculty through the data team process. By distributing leadership through leadership teams and designating specific roles for support staff, teachers received support that enabled them to completely focus upon classroom instruction and interventions to support all learners.

The duties of the assistant principal at Intermediate Elementary consisted of supervision and discipline. While these duties are highly supportive for both leadership and teachers, this leader was not involved in the implementation of common formative assessments nor the data team processes. Educating this leader about these effective practices would provide additional support for teachers and leaders and will help to sustain the practices this school has in place in the event of leadership succession.

### *Cultural Characteristics*

Martin (2002) and Schein (1996) explained the culture of the organization provides the set of values and principles that define the daily work that takes place within the organization. Leaders who desire to instill change should study the existing culture, which will help them to guide and develop the culture over time. By building upon strengths and gradually shaping new cultural norms and beliefs, leaders and teachers can replace older, outdated values and assumptions. Four cultural characteristics facilitated the effective implementation and use of common formative assessments at Intermediate Elementary: (a) reculture, (b) collaboration, (c) high expectations, and (d) caring relationships.

*Reculture.* Fullan (2002) and Yukl (2006) reminded leaders that change often creates feelings of stress and anxiety, even in the best of circumstances. Having the knowledge that change often creates discomfort, will help leaders approach the change process with understanding and support, which are encouraging and helpful during times of transition (Fullan & Miles, 1992). Before a change process is implemented, leaders should develop a clear and comprehensive plan for providing support, encouragement, and the resources necessary for staff to work through the change process. By coupling new information with opportunities for teachers to collaborate and share, this information can develop into valuable knowledge (Fullan, 2001; Nanaka & Takeuchi, 1995). Also, closely monitoring any benefits gleaned from the change and sharing these results with stakeholders will increase the value for change and will encourage teachers and other stakeholders to commit more deeply, ultimately, incorporating the change into the existing culture and sustaining the change over time.

*Collaboration.* When teachers work collaboratively in data teams or professional learning communities, they experience increased accountability across the team, yet the guidance and support they receive through collaborative processes provides a balance of pressure and support that contributes to school improvement (DuFour, DuFour, Eaker & Karnahek, 2004; Fullan, 2000; Supovitz, 2002). Every data team at Intermediate Elementary recognized enormous value in team planning, pacing, and data analysis. Teachers also expressed they share strategies and resources on a daily basis. These teachers are held accountable both as a team and as individual teachers.

Leaders committed to increasing student achievement must structure regular collaboration time within the school day so teachers have opportunities to cooperatively plan and apply their efforts toward a common goal or purpose. Implementing common formative assessments required purposeful focus and the alignment of curriculum, instruction, and assessment. These tasks would be difficult to orchestrate without frequent, ongoing collaborative work. Teachers also gleaned best instructional practices through collaboration, sharing isolated practices across the entire grade-level team, increasing tacit knowledge, which promoted improvement.

*High expectations.* Establishing high expectations for effective instruction and learning must be coupled with additional support for both teachers and students. Students at Intermediate School work hard because they know they will receive extra support when they struggle with difficult assignments and tasks. Students are also aware they will be required to revisit elusive concepts as needed, further encouraging them to apply their best effort the first time it is presented. By providing the expectations and structures

necessary for students to receive additional support as needed, school leaders and teachers encourage students to give their very best efforts.

Sharing individual classroom data across the data team can provide both individual accountability and increase teacher motivation, as was revealed by focus group, interview, and survey responses. However, if done without the support of a collaborative culture, it has the potential to foster fear, unhealthy competition, and division amongst team members. As evidenced in this study, the highly supportive role of both the building principal and grade level peers are imperative for keeping this practice both motivating and encouraging for teachers.

Fullan et al. (2004) and Buffam et al. (2009) posited that a strong moral purpose is what often promotes teachers and leaders to advocate for school improvement. By keeping growth and learning for all students at the forefront, leaders foster the natural desire for teachers to make a difference in the lives of students. Edmonds (1982) stated, "...To be effective, a school need not bring all students to identical levels of mastery, but it must bring an equal percentage of its highest and lowest social classes to minimum mastery" (p. 4). This statement encourages educators to differentiate and reteach because it matters—socially, economically, and academically, for all students.

*Caring relationships.* The popular adage "A student doesn't care how much you know, until they know how much you care" is certainly evidenced at Intermediate Elementary School. Several teachers expressed their belief that students give their best effort because they know how much their teachers care about them, and that increased student success with the implementation of common formative assessments has increased student motivation. Fostering warm, positive, and respectful relationships should be

fundamental for any school striving to increase student achievement. By meeting basic student needs for all students first, the staff at Intermediate was able to move forward and expect more because they cared about the *person* first, the *student* second.

The warm collegial relationships that are evidenced at Intermediate have evolved over time. Providing regular collaborative opportunities and social occasions outside of the workday helped to foster the trust and support that underpin the genuine, caring relationships this faculty shares. As evidenced in this study, leaders should be first to show empathy, support, and care for both students and teachers, and not tolerate behaviors or practices that are not congruent with this philosophy. By clarifying expectations for respect and care, and modeling these traits, leaders encourage the faculty and staff to also reflect these values.

DuFour and Eaker (1998) stressed the importance of short-term wins, explaining these wins provide the motivation to go the distance to realize long-term goals. Celebrations and recognitions are motivating to staff and students alike. Taking the time to recognize and celebrate student and teacher success motivates everyone to put forth their best effort, strengthens the sense of purpose and fosters unity, and establishes traditions that help to define the values and beliefs embedded within the culture of the school.

### *Limitations*

Limitations of this study included time, scope of the study, and researcher bias. Data were collected over a period of three days spent at Intermediate Elementary. Findings from the study included teacher and leadership perspectives from current staff members. Other staff members who were teaching at the school during the

implementation phase of common formative assessments were not consulted. This study focused solely upon the implementation of common formative assessments, their use, and the types of leadership and cultural indicators, which facilitated the effective use of these assessments. Other indicators, such as the specific types of professional development activities that contributed to the implementation and use of common formative assessments, were not included in this study.

An additional limitation to the study was the narrow scope of the study. Teacher and leadership perceptions were limited to one school setting. While efforts were made to study an average-sized school with typical demographics, this study was a case study of one rural, upper elementary school in the Midwestern United States. Results of this study may not be applicable to a large, urban district, or to schools that possess significantly different demographics than those at Intermediate Elementary.

Finally, researcher bias was a limitation in that the researcher, currently a director of curriculum, instruction, and assessment, came into the study with previous professional development, experiences, and preconceived ideas surrounding the implementation and effective use of common formative assessments. Currently, the researcher works collaboratively with principals and teachers to effectively implement and utilize common formative assessments within her present school district. Triangulating the data was utilized in efforts to limit researcher bias and to depict an accurate description of the implementation and effective use of common formative assessments, and the types of leadership and cultural characteristics that facilitated the effective use of common formative assessments at Intermediate Elementary School.

### *Recommendations for Future Research*

The study conducted at Intermediate Elementary focused on staff perceptions surrounding the implementation and use of common formative assessments in ways that impact student achievement, the cultural characteristics that promoted the use of these assessments, and the types of leadership that facilitated the use of effective common formative assessments. This study has illuminated several valuable questions that would benefit practitioners who have a desire to increase student achievement within their own schools and are presented as additional considerations for future research. First, what is the relationship between embedded formative classroom assessment and student engagement with new learning tasks? Also, does the use of only common predictive assessments have an impact upon student achievement? Furthermore, does the addition of a common pre-assessment prior to instruction increase student achievement more significantly than post assessments and re-teaching alone?

### *Embedded Formative Assessments and Student Engagement*

Black and Wiliam (1998) defined formative assessment “as encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged” (p. 7). Intermediate School teachers shared that high teacher expectations, a climate of warmth and care, and the used of common formative assessments at Intermediate Elementary helped motivate students to give their best effort. Exploring the consistent use of *classroom* formative assessments, or continual feedback on daily learning tasks, and the impact, if any on student engagement with new learning

tasks, would provide teachers valuable information surrounding ways to effectively motivate and engage learners.

### *Predictive Assessments and Student Achievement*

The faculty at Intermediate Elementary utilized a combination of predictive assessments and teacher-created diagnostic assessments from the Acuity Assessment System as common formative assessments. The purpose of the predictive assessment (or benchmark assessment) is to forecast a student's probable performance on the annual state assessment. The validity of a predictive assessment is determined by mathematically relating scores on the two different tests. The diagnostic assessments utilized at Intermediate Elementary are teacher created assessments using an item bank of assessment questions over objectives that have been taught. The purpose of this assessment is to locate learning difficulties or errors in student response, over specific knowledge, skills, or abilities, providing a basis for remedial instruction (CTB McGraw-Hill, 2011).

Popham (2008) stated whether predictive or benchmark assessments were teacher-created or purchased from a vendor (such as Acuity), "...there is currently no research evidence supporting the hypothesis that this kind of periodic assessment is educationally beneficial" (p. 10). A study designed to compare schools utilizing only predictive assessments, without utilizing diagnostic formative assessments, would determine if the use of predictive assessments increased student achievement. This study would have implications for districts considering the purchase of expensive predictive assessments from a vendor rather than developing teacher-created common formative assessments.

### *Pre-Assessments and Student Achievement*

Intermediate Elementary currently does not implement pre-assessments prior to instruction. An Acceleration Plan provides some information about student learning prior to instruction; however, it does not specifically assess student mastery of the specific skills and concepts contained within the next instructional unit. A study designed to explore if the addition of a pre-assessment followed by differentiated instruction during the instructional period, then a post assessment with interventions had a higher impact upon student learning and motivation than a post assessment followed by interventions alone. Two questions to explore through this study might include: (a) does the use of a pre-assessment with common formative classroom assessments and interventions significantly impact math achievement more than a post assessment with interventions? (b) Does the pre-assessment data when compared to post-assessment data motivate students to put forth more effort during instruction? During interventions? This study would reveal significant new knowledge for schools that currently utilize formative assessments, enabling them to implement the practices that have the greatest impact upon student effort and achievement.

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## Appendix A: Letter of informed Consent – Interview

Dear Research Participant:

Thank you for considering participation in the research study “*Using Common Formative Assessments to Promote Student Achievement: A Case Study of Practice, Leadership and Culture.*” This study is being conducted in partial fulfillment of the requirements for the Doctor of Education degree in Educational Leadership and Policy Analysis at the University of Missouri-Columbia.

This information will add to the available knowledge regarding the use of common formative assessments and will be useful in understanding how common formative assessments are utilized in an upper elementary building that has experienced sustained growth in student achievement.

Before you make a final decision about participation, please read the following about how your input will be used and how your rights as a participant will be protected:

- Your participation in this study is completely voluntary. You may stop participating at any point without penalty.
- You need not answer all of the questions.
- Your identity will be protected when I report my findings. Your answers will be kept confidential, and I will use a pseudonym rather than your real name in my report.
- To the knowledge of the researcher, there are no reasonable and foreseeable risks or discomforts you might experience as a result of participating in this study.
- Your participation will take approximately one hour. During this time, the researcher will interview you. The interview will be audio recorded and then transcribed by the researcher.
- The data collected will be kept secure in a locked filing system and destroyed three years after the study has been completed.

This project has been reviewed and approved by the University of Missouri-Columbia Campus Institutional Review Board (IRB). The IRB believes that the research procedures adequately safeguard the subject’s privacy, welfare, civil liberties, and rights. The IRB Board may be contacted at 483 McReynolds Hall, Columbia, MO. 65211; phone (573) 882-9585; email – [umcresearchirb@missouri.edu](mailto:umcresearchirb@missouri.edu). Dr. Cynthia Macgregor, Professor, CLSE, MISSOURI State University (417) 836-6046 is supervising the project)

If you are still willing to participate and assist with this important research project, please fill out the attached consent form. Keep this letter for future reference. You may contact me at my work number (417) 32605291 ext. 148, or cell number (417) 327-3463, if you have questions or concerns about your participation. Thank you for your time and consideration.

Sincerely,

Patricia (T.C.) Wall  
Doctoral Candidate  
University of Missouri-Columbia

## **Informed Consent Form – Interview**

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I, \_\_\_\_\_, agree to participate in the study of “Using Common Formative Assessments to Promote Student Achievement: A Case Study of Practice, Leadership, and Culture,” conducted by Patricia (T.C.) Wall. I understand that:

- My answers will be used for educational research.
- My participation is voluntary.
- I may stop participating at any time without penalty.
- I need not answer all of the questions.
- My identity will be kept confidential.

I have read the letter of informed consent and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

If you would like an executive summary of the study’s results, please provide your email address:

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## Appendix B: Letter of Informed Consent – Focus Group Invitation

Dear Research Participant:

Thank you for considering participation in the research study “Using Common Formative Assessments to Promote Student Achievement: A Case Study of Practice, Leadership and Culture” This study is being conducted in partial fulfillment of the requirements for my doctoral program in Educational Leadership and Policy Analysis. This study will be useful in understanding how common formative assessments are utilized in an upper elementary building that has experienced sustained growth in student achievement.

I have been granted permission by your school administration to conduct six focus group interviews, one at each grade level, at your school. I am seeking 3-7 teachers per grade level who serve on a Professional Learning Community (PLC) team or Data team who would be willing to participate in a focus group session.

Before you make a final decision about participation, please read the following about how your input will be used and how your rights as a participant will be protected:

- Your participation in this study is completely voluntary. You may stop participating at any point without penalty.
- You need not answer all of the questions.
- All information you provide will be confidential and grouped with responses from other participants. You will not be identified by name in the findings.
- To the knowledge of the researcher, there are no reasonable and foreseeable risks or discomforts you might experience as a result of participating in this study.
- Your participation will take approximately 1 hour to 90 minutes. During this time the researcher will interview your team.
- The interview will be audio recorded and then transcribed by the researcher.
- The data collected will be kept secure in a locked filing system and destroyed three years after the study has been completed.

This project has been reviewed and approved by the University of Missouri-Columbia Campus Institutional Review Board (IRB). The IRB believes that the research procedures adequately safeguard the subject’s privacy, welfare, civil liberties, and rights. The IRB Board may be contacted at 483 McReynolds Hall, Columbia, MO. 65211; phone (573) 882-9585; email – [umcresearchirb@missouri.edu](mailto:umcresearchirb@missouri.edu). Dr. Cynthia Macgregor, Professor, CLSE, MISSOURI State University (417) 836-6046 is supervising the project)

If you are still willing to participate and assist with this important research project, please fill out the attached consent form. Keep this letter for future reference. You may contact me at my work number (417) 326-5291 ext. 148, or cell number (417) 327-3463, if you have questions or concerns about your participation. Thank you for your time and consideration.

Sincerely,

Patricia (T.C.) Wall  
Doctoral Candidate-University of Missouri-Columbia

## **Informed Consent Form – Focus Group**

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I, \_\_\_\_\_, agree to participate in the study of “Using Common Formative Assessments to Promote Student Achievement: A Case Study of Practice, Leadership, and Culture,” conducted by Patricia (T.C.) Wall. I understand that:

- My answers will be used for educational research.
- My participation is voluntary.
- I may stop participating at any time without penalty.
- I need not answer all of the questions.
- My identity will be kept confidential in study findings.

I have read the letter of informed consent and any questions I have asked have been answered to my satisfaction. I agree to participate in this focus group session.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

If you would like an executive summary of the study’s results, please provide your email address:

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## Appendix C: Letter of informed Consent – Online Teacher Questionnaire

Dear Research Participant:

Thank you for considering participation in the research study “*Using Common Formative Assessments to Promote Student Achievement: A Case Study of Practice, Leadership and Culture*”. This study is being conducted in partial fulfillment of the requirements for the Doctor of Education degree in Educational Leadership and Policy Analysis at the University of Missouri-Columbia.

This information will add to the available knowledge regarding the use of common formative assessments and will be useful in understanding how common formative assessments are utilized in an upper elementary building that has experienced sustained growth in student achievement.

Before you make a final decision about participation, please read the following about how your input will be used and how your rights as a participant will be protected:

- Your participation in this study is completely voluntary. You may stop participating at any point without penalty.
- You need not answer all of the questions.
- Your identity will be protected when I report my findings. Your answers will be kept confidential, and I will use a pseudonym rather than your real name in my report.
- To the knowledge of the researcher, there are no reasonable and foreseeable risks or discomforts you might experience as a result of participating in this study.
- Your participation will take approximately twenty to thirty minutes. During this time you will answer open-ended questions from an online teacher questionnaire about the culture, leadership, and practices surrounding the implementation and use of common formative assessments.
- The data collected via a Google Docs survey will be stored via password protection and disposed of 3 years after the conclusion of this study.

This project has been reviewed and approved by the University of Missouri-Columbia Campus Institutional Review Board (IRB). The IRB believes that the research procedures adequately safeguard the subject’s privacy, welfare, civil liberties, and rights. The IRB Board may be contacted at 483 McReynolds Hall, Columbia, MO. 65211; phone (573) 882-9585; email – [umcresearchirb@missouri.edu](mailto:umcresearchirb@missouri.edu). Dr. Cynthia Macgregor, Professor, CLSE, MISSOURI State University (417) 836-6046 is supervising the project)

If you are still willing to participate and assist with this important research project, please fill out the attached consent form. Keep this letter for future reference. You may contact me at my work number (417) 32605291 ext. 148, or cell number (417) 327-3463, if you have questions or concerns about your participation. Thank you for your time and consideration.  
Sincerely,

Patricia (T.C.) Wall  
Doctoral Candidate  
University of Missouri-Columbia

## Appendix D: Interview Protocol for Leadership Interviews

1. How long have you served in a leadership position at Intermediate Elementary School?
2. What questions are the bases for decision making for your school (Data team)?
3. How often and in what ways do you share leadership with others?
4. Tell me about the different types of assessments administered at Intermediate Elementary School.
5. Which assessments do you believe have the greatest impact upon student achievement?
6. How do you monitor the consistent use of Common Formative math assessments in your building/ or on your team?
7. What indicators do you look for to ensure that teachers are differentiating instruction for students after a formative assessment has been scored?
8. What have you accomplished in your leadership tenure at this school or on this team that has made the greatest impact upon student achievement in mathematics?
9. What was your (your teams) biggest hurdle in attaining this accomplishment?
10. How did you promote the participation of stakeholders during the change process?
11. What was your role, if any, in facilitating this change? What strategies did you utilize to help overcome resistance?
12. Do the teachers in this school believe that all children can learn at high levels? Provide a specific example that illustrates this belief.
13. Describe the building/team celebrations and recognitions that surround student achievement.

## Appendix E: Questioning Route for Focus Group Interviews

1. Please tell me who you are and what you enjoy doing most when you are not teaching children.
2. Describe how the building schedules provide collaboration time for teachers.
3. What activities provide the focus for most collaborative team discussions?
4. How long has your team utilized Common Formative Math Assessments with purpose?
5. Describe the shift toward the use of Common *Formative* Assessments in this school? What stakeholders were involved in this process?
6. Are Common Formative Math Assessments developed only around essential or “power standards” if so, what was the process for identifying these?
7. Approximately how often does this team assess students with common formative math assessments?
8. Do you use a pre/post assessment cycle when administering Common Formative Math Assessments? If so, describe a typical cycle.
9. How do teachers use Common Formative Math Assessments to adjust instruction for students who do not master essential standards? Those who master essential standards quickly?
10. Does the classroom teacher differentiate instruction for his/her own students or is this a shared responsibility? If shared, please describe how students are grouped for instruction.
11. How does the use of Common Formative Assessment encourage students to adjust their learning tasks if needed?
12. If assessment standards are essential, necessary for success in school, and later, in life, how do you respond to the students who don’t master them?
13. How often do teachers share effective instructional practices? Can you provide a recent example? How did you celebrate this success?
14. How do you communicate assessment results with stakeholders?

## Appendix F: Teacher Online Questionnaire

### *Culture:*

- Please describe your classroom celebrations and recognition that surround student achievement.
- Please share any phrases, characters or symbols that helped shape the culture of high achievement at Intermediate Elementary School?
- What are some descriptive words that most students would use to describe Intermediate Elementary school?
- In your opinion, what makes Intermediate Elementary school a great place to teach?
- In your opinion, what makes Intermediate Elementary School a great place for students to learn?
- Please share a story that you feel exemplifies the existing culture at Intermediate Elementary School.

### *Leadership:*

- Please describe the most significant change within the last 3-5 years at Intermediate Elementary that has resulted in increased student achievement in mathematics. Include key people who have helped to make this change happen.
- Describe ways that your principal promotes high academic achievement in your school.
- How does your principal share leadership with different stakeholders (i.e., parents/guardians and other members of the community across the organization)?
- What are some ways that you have been able to share in the decision making process in your school?
- How does your principal ensure that classroom instruction is driven by assessment results?
- In addition to your principal, who else in your school takes a leadership role with assessment that informs instruction and promotes student achievement? Please describe his/her role in the assessment process.

### *Common Formative Assessments:*

- Describe some ways in which you motivate students to give their best effort in your class.
- Once a common formative assessment has been scored, describe your next steps in instruction.

- Do you track mastery of essential standards for every child in your class? If yes, please explain what this process looks like in your classroom.
- Overall, do you believe students put forth more effort on classroom assignments based upon the common formative assessment practices used at Intermediate Elementary? If yes, please explain.

Appendix G: Document Analysis Guide

<b>The Use of Assessment to Inform Instruction/Promote Student Learning</b>	
<b>Leadership that Promotes</b>	<b>A Culture that Fosters</b>
<p><i>Instructional Leadership</i></p> <ul style="list-style-type: none"> <li>• Data Team/PLC collaboration schedules</li> <li>• Data Team/PLC Agendas</li> <li>• Data Monitoring documents</li> </ul>	<p><i>Communication</i></p> <ul style="list-style-type: none"> <li>• School Newsletters/Teacher newsletters</li> <li>• Blogs/email groups</li> <li>• Data Team/PLC Team Agendas/minutes</li> </ul>
<p><i>Shared Leadership</i></p> <ul style="list-style-type: none"> <li>• Data Team Agendas</li> <li>• SMART Goal Documents</li> </ul>	<p><i>Structure</i></p> <ul style="list-style-type: none"> <li>• Assessment Calendars</li> <li>• Team meeting Logs</li> <li>• Common Planning Schedules</li> </ul>
<p><i>Social Justice Advocacy Leadership</i></p> <ul style="list-style-type: none"> <li>• Data Team/PLC Agendas</li> <li>• Assessment Calendar (s)</li> <li>• RTI/Intervention plans and or schedules</li> <li>• Data Team/PLC Monitoring documents</li> </ul>	<p><i>Expectations</i></p> <ul style="list-style-type: none"> <li>• SMART Goal Documents</li> <li>• Student mastery checklist</li> <li>• Differentiated Lesson Plans</li> <li>• Examples of Assessments that inform instruction/support student learning (formative)</li> <li>• Intervention/enrichment schedule</li> </ul>

Appendix H: Observation Guide

<b>The Use of Common Formative Assessments</b>	
<b>Leadership that Promotes</b>	<b>A Culture that Fosters</b>
<p><b>Instructional Leadership</b></p> <ul style="list-style-type: none"> <li>• Supportive/encouragement</li> <li>• Teacher Collaboration Schedule</li> <li>• Building configuration</li> <li>• Monitoring the implementation and use of common formative assessment</li> </ul>	<p><b>Visual evidence</b></p> <ul style="list-style-type: none"> <li>• Data Walls</li> <li>• Evidence of Academic Achievement</li> <li>• Student work posted</li> <li>• Symbols</li> <li>• Celebration of success</li> <li>• Recognition of success</li> </ul>
<p><b>Shared/Distributed Leadership</b></p> <ul style="list-style-type: none"> <li>• Evidence of shared leadership throughout the building</li> </ul>	<p><b>Structure</b></p> <ul style="list-style-type: none"> <li>• Teacher Collaboration</li> <li>• Master Schedule</li> <li>• Building Configuration</li> </ul>
<p><b>Social Justice Advocacy Leadership</b></p> <ul style="list-style-type: none"> <li>• Involves all stakeholders</li> <li>• Notices injustice and takes action</li> <li>• Supports/encourages all students</li> <li>• Nurtures the individual learner</li> <li>• Overcomes obstacles</li> <li>• Educates the whole child</li> <li>• Provides a meaningful experience</li> </ul>	<p><b>Attitude</b></p> <ul style="list-style-type: none"> <li>• Teacher expression of warmth, care</li> <li>• Belief that all kids can learn</li> <li>• High expectations for all learners</li> <li>• Support for study skills/behavior</li> <li>• Celebration of Student/Teacher Success</li> </ul>

## VITA

Patricia (T.C.) Carroll Wall was born on July 23, 1965 in Hays, Kansas. She grew up in Cabool, Missouri with two loving parents, two brothers and one sister. Mrs. Wall received her Bachelor's of Science in Elementary Education from Southwest Missouri State University in the spring of 1990. She taught second and fifth grade students at Skyline Elementary in Norwood, Missouri for three years, and fourth grade students in Marshfield, Missouri for two years. She earned a Master of Science in Educational Administration from Southwest Missouri State University in the summer of 1998, and became the Assistant Principal at Boswell Elementary in Lebanon, Missouri in the fall of that same year. She served ten fulfilling years in the district, enjoying additional roles as building Principal, and Elementary Director; and continued her education, studying at Southwest Missouri State University and the University of Missouri-Columbia. In the fall of 2008, Mrs. Wall and her family moved to Bolivar, Missouri. As Assistant Superintendent of the district, she enjoys collaborating with building principals and teachers in activities involving curriculum, instruction, and assessment.

Mrs. Wall has been married to her husband, Paul, for 22 years. Together they have a son, Samuel, and a daughter, Emma. She enjoys spending time with family and friends, teaching in the Pre-K classroom at church, hiking, reading, and continued learning for personal and professional growth.