Exploring Formative Assessment

Current Practices in Westside Consolidated School District

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Executive Summary

America's public schools are operating in a new reality in which they are expected to do more with less. Heightened measures of accountability combined with budget constraints have led districts to seek out strategies to improve student achievement that can be implemented within an environment of limited resources. When utilized effectively, formative assessment is one such practice. This Capstone report, prepared for Westside Consolidated School District (WCSD), investigates formative assessment practices within a rural context. Formative assessment is defined here as a "planned process in which assessment-elicited evidence of students' status is used by teachers to adjust their ongoing instructional procedures" (Popham, 2008, p. 5).

This work centered around two questions:

1) What are the current assessment practices in Westside Consolidated School District and how do they align with research on effective formative assessment?

2) What assets and obstacles exist in the implementation of effective formative assessment practices?

The extant research on rural schools, professional learning communities, and formative assessment informed the research design, findings, and recommendations. The project involved interviews of teachers and a detailed formative assessment reflection protocol. This process required WCSD faculty to critically examine their assessment practices to provide a clear picture to researchers about the reality of assessment in the district. The resulting data were analyzed under frameworks of best practice for formative assessment. This analysis allowed for the discovery of specific areas and/or practices where the district can focus its attention on formative assessment in the coming years. Several trends emerged from the data.

- Assessment practices in Westside Consolidated School District are inconsistent.

- The transitional period between the Arkansas State Standards and the Common Core State Standards has resulted in confusion about assessment expectations.

- Teachers have a desire to collaborate with one another but do not always have the time or resources to do so.

- Teachers have a wide range of understanding regarding the process of formative assessment.

- There has been limited professional development surrounding formative assessment.

- There is a perceived lack of technology available for assessment purposes.

Standards, will provide administrators and teachers with a guide for moving forward in the development of a consistent formative assessment system that will impact student achievement.

Recommendations for WCSD include a process-oriented strategy that fits within the organizational structure and requires few financial resources.

WCSD is a close community, often referred to as a "family" by those who work and live in the district. The recommendations to the district attempt to leverage the strength of relationships among the staff into a professional community in which formative assessment practices can be developed with available resources. This analysis of the assessment practices in WCSD, as it relates to the national call for higher rigor in the Common Core State

Section 1: Project Description

Definition of the Issue

Schools today are faced with a level of accountability for outcome measures that is unlike any in the history of American public education. The 2001 No Child Left Behind Act (NCLB), an extension of the 1965 Elementary and Secondary Education Act, called for proficiency among every American student by the year 2014, requiring that states create assessments based on sets of standards that tested discrete skills in reading and mathematics. This era marked a major shift towards an emphasis on these skills and assessments that could capture students' ability, using multiple-choice tests that would produce quick results for districts and states. Proficiency rates were calculated for grades and schools as a whole, as well as for student subgroups, including racial and ethnic groups, English Language Learners, students with disabilities, and economically disadvantaged populations. Schools were labeled annually based on level of attainment, based on Annual Measurable Objectives (AMOs) for all students and each applicable subgroup. These labels include, in descending order, Achieving, Targeted School Improvement, Corrective Action, and Restructuring, with penalties assigned to those not sufficiently performing. In Arkansas, these norm-referenced examinations, called Benchmarks, are administered to students in grades 3-8 as well as to high school students in the form of End of Course (EOC) tests in Algebra I, Geometry, and English in grade 11. Each of these assessments was developed using standards from the established Arkansas Curriculum Frameworks (Hall, 2008). In order to prepare for these tests of individual skills, many teachers utilize similar instructional methods, teaching and assessing concepts in isolation from one another in order to clearly identify areas of student growth and deficiency, often leading to the sequestration of math, literacy, science, and social studies from one another. In the years following the initial passage of NCLB, many schools struggled to attain the increasing proficiency requirements outlined to achieve Annual Yearly Progress and fell behind in their

pursuit of universal proficiency by the year 2014.

In an effort to assist states in providing a rigorous education for every student, President Obama announced in September 2011 voluntary flexibility to states in the form of waivers from components of NCLB. This flexibility was offered "in exchange for serious state-led efforts to close achievement gaps, promote rigorous accountability, and ensure that all students are on track to graduate college- and career-ready" (Office of the Press Secretary, 2011). Currently 34 states, including Arkansas, have been approved for exemptions under the waiver process. While each application is distinct, as part of the waiver, states were tasked with either the development of rigorous standards, or the adoption of the Common Core State Standards, a nationally developed set of standards that focuses on "core conceptual understandings and procedures" with an emphasis on real-world application and understandings across content areas (National Governors Association Center for Best Practices, 2010). These waivers were not intended to relieve schools of accountability, but rather to push school reform to the local level. This shift, from the need to demonstrate mastery on discrete skills to a more holistic and applied type of

knowledge, has focused the attention of many districts on the use of assessment to drive instruction in order to achieve mastery of these rigorous new standards.

Assessments aligned to Common Core Standards, which are intended to evaluate a student's understanding of key math and literacy concepts, are currently being developed by the Partnership for Assessment and Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (SBAC), but have not yet been released to districts. This has led to uncertainty on the part of teachers attempting to prepare for their implementation. Further complicating the issue is the fact that many states, including Arkansas, are attempting to train teachers and begin implementation of the Common Core Standards while continuing to utilize the Benchmark and End of Course assessments based upon the previously utilized Arkansas Curriculum Frameworks. The 2012-2013 school year leaves teachers and students in flux, as they are encouraged to apply the Common Core State Standards in their daily instruction; however, the state of Arkansas will not implement the PARCC assessment until the close of the 2013-2014 year.

Like schools and districts across the country, teachers in WCSD struggled to meet the AMOs established under NCLB. In the 2011-2012 school year, both the middle and high school were identified for School Improvement as a result of a lack of progress in both math and literacy among its students with disabilities in middle school and a failure to meet objectives among economically disadvantaged students and the total population in the high school. These designations have triggered the need for a change in practice in a district that has traditionally performed at or above government-defined expectations for achievement. While historically each of the three schools has performed adequately on state summative assessments, progress has leveled. Although the designations utilized under NCLB will soon no longer be applicable, concern about this poor performance (across particular subgroups and the high school), coupled with a lack of understanding regarding the structure and content of the impending Common Core State Standards and PARCC assessment, has made assessment a priority in WCSD.

Research Questions

This Capstone project stems from the district's need to align practices within and across the grade levels and tiers in WCSD. By focusing on current formative assessment, as well as a process for improving it, school and district administrators hope to equip teachers with the appropriate tools to monitor student progress and make informed instructional decisions. In turn, these actions and adjustments should result in better prepared students as defined by Benchmark and End of Course exams as well as the anticipated upcoming assessments of Common Core standards.

The following questions drive the scope of this Capstone project

> 1) What are the current assessment practices in Westside Consolidated School District and how do they align with research on effective formative assessment?
>
> 2) What assets and obstacles exist in the implementation of effective formative assessment practices?

Given the evidence that effective formative assessment can be utilized to inform instruction and contribute to improved outcomes on summative examinations, it is important to embed all findings and recommendations in a context that makes them applicable for use in WCSD. These tools would comprise a comprehensive plan that incorporates current research-based best practices in assessment. The context of the small rural school system and the limited resources inherent in such a setting will inform the strategies and recommendations for the school district's formative assessment reform.

> *Project Question 1: What are the current assessment practices in Westside Consolidated School District and how do they align with research on effective formative assessment?*

Formative assessment is a process by which teachers can evaluate student understanding at intervals throughout the school year. It can take the form of interim assessments, student work, and applied projects that demonstrate to the teacher what students have learned. In this process, the teacher is able to monitor his or her own practice and improve instruction to ensure that all students progress towards identified learning targets. There are multiple definitions of formative assessment, and consensus on a single definition for the purposes of this study will help to clarify the subsequent strategies for improving formative assessment practices (Wiliam, 2011).

Paul Black and Dylan Wiliam describe 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" (1998a, p.7). Bransford et al. define it as "ongoing assessments designed to make students' thinking visible to both teachers and students" (2000, p.24). Cowie and Bell explain formative assessment as "the process used by teachers and students to recognize and respond to student learning in order to enhance that learning, during the learning" (1999, p. 32). Formative assessment, unlike summative assessment, is conducted in order for the student and the teacher to alter their thinking through a process of continuous feedback.

WCSD is seeking strategies for formalizing and institutionalizing formative assessment practices that are evidence-based and procedural, with the goal of improving student achievement throughout the year. The definition of formative assessment presented by W. James Popham frames the context of this work and emphasizes the planning and procedural aspects of the formative assessment process: "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 the current learning tactics" (Popham, 2008, p. 5).

Given the changing nature of summative assessment, and the shift to Common Core in 2013, formative assessment initiatives should focus on a process, rather than a product. Multiple activities are involved in formative assessment practices; however, it is important that all practices lead to "evidence-based assessments, both formal and informal, to elicit

> "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 the current learning tactics." (Popham, 2008, p. 5)

evidence regarding students' status" (Popham, 2008, p. 5). The evidence is then used to alter, or transform, future instruction.

The benefit of an effective system of formative assessment is a continual feedback loop between the teacher and students. As the teacher uncovers students' strengths and weaknesses, he or she can target instruction more effectively and frequent formative assessment makes students' thinking more transparent to both the students and the teacher so that learning can be targeted and refined (Bransford et al., 2000). With limited time in the school day to commit to the wealth of material that must be learned each year, formative assessment allows teachers to hone in on student understanding and ensure that students are given the instruction they need on an individual level.

Feedback is most valuable when students have the opportunity to revise their thinking as they are working on a unit or project. Assessments must move beyond a basic

understanding of facts to a true measurement of knowledge. Students may have learned to feign understanding with memorized procedures on multiple choice exams, but when asked to explain why or how the procedure works or to dig deeper into the subject, they may not fully understand. If students are only given the end-of-year summative assessment and then move on to the next year of material, they have little chance to correct mistakes. Formative assessment allows teachers to help students correct mistakes and fill gaps in understanding prior to the summative assessment (Bransford et al., 2000).

Black and Wiliam have contributed research on the effectiveness of formative assessment through a meta-analysis that answers the following questions: 1) Is there evidence that improving formative assessment raises standards? 2) Is there evidence that there is room for improvement? 3) Is there evidence about how to improve formative assessment?

Their analysis found that formative assessment practices have a direct impact on student achievement. While there is much room for improvement in formative assessment practices, there is strong evidence to guide

schools and districts on how to improve current assessment procedures (1998a; 1998b).

Figure 1. Black & Wiliam's *Inside the Black Box* Research Questions and Findings

Inside the Black Box

1) Is there evidence that improving formative assessment raises standards?

• Black and Wiliam's analysis found a typical effect size between .4 and .7, larger than effect sizes for most educational interventions.

2) Is there evidence that there is room for improvement?

• Practitioners are concerned with over-testing and overemphasis of assessment. There is little commitment to formative assessment practices in policy.

3) Is there evidence about how to improve formative assessment?

• Feedback should be descriptive and specific, and should avoid comparisons to other students.

• Students should be trained in self-assessment so that they can understand their learning goals.

• Conversations between teacher and student should be reflective and conducted so that all students have an opportunity to express their ideas.

• Homework exercises and tests should be clear and relevant to learning targets.

It is also necessary to examine the unique contextual elements that both promote or constrain formative assessment in WCSD. These may range from the norms developed among colleagues over time to the policies and procedures of the district, to the unique interactions inherent to a rural community. It is only in considering the environment in which the practices being researched exist that effective recommendations can be made.

Small rural schools fall within a unique context in the educational landscape, one in which community investment is high and the school often serves as a hub of activity long after classes are over for the day (Peshkin, 1978). Although the surge in interest in the concept of new localism is recent, the concept itself is not new. In previous eras, schools were often seen as the center of the community, where people and groups gathered and a sense of shared responsibility was formed. Today, school reform is generated at a national level more than ever before, as schools and districts attempt to make

meaning of these national policies in their unique local context (Crowson & Goldring, 2009).

While the notion of new localism encompasses a variety of concepts, including investment in school-community partnerships and family engagement, in the classroom it often refers to the local activity aimed at meeting national objectives (Crowson & Goldring, 2009). The divide that can exist between policy and practice makes it all the more essential that schools and districts translate state and national standards into a meaningful vision fitting the classroom and local community context. It is in this disconnect, between the goals established and the activities intended to advance progress towards them, that schools often find themselves underperforming and underserving those students most in need.

New localism does not place the local community ahead of the larger aims of the state and nation, but rather seeks to balance each, honoring context while also advancing the aims of schools in providing a rigorous academic program to every student (Crowson & Goldring, 2009). While those in rural communities are often deeply entrenched in the norms and customs with which they are most familiar, education often

seeks to expose students to that which they might not otherwise know. Thus, localism attempts to do both, in order to develop academically capable students with both a sense of where they come from as well as an understanding of where they fit in the world.

The power of a small school, often found in rural areas, is that individuals may fill multiple roles and there are often opportunities to engage in positions of control, making them ideal places to engage in a distributed leadership structure. School districts of all sizes are increasingly implementing this alternative to traditional hierarchical governance to increase teacher engagement in the decision-making process that may have been lacking in school reform initiatives (Copland, 2003). There exist several forms of agency issues related to reform initiatives, including a lack of sufficient communication between parties, and the fact that "a lack of congruence between principals' intentions and agents' actions can arise from the ubiquitous problem of information asymmetry", making it all the more essential to solicit involvement from all involved (Rowan & Miller, 2007, p. 256). Often such a structure consists of several key components including the need for a collaborative school

structure, ongoing inquiry, and collective decision-making (Copland, 2003).

While teachers often exist in an environment of silos, in which each individual plans, implements, and evaluates the practices in one's own classroom, it is becoming increasingly important and efficient for teachers to work with one another. Collaborative practices, including those surrounding assessment, encourage ongoing reflection "into all of the decisions, dilemmas, and kinds of knowledge that comprise the act of teaching" (Levine, 2010, p.113; Cochran-Smith & Lytle, 1992). These conversations decrease the sense of isolation often experienced by teachers and allow for the development of a shared definition of the mission and vision behind the daily work occurring within the school (DuFour & Eaker 1998; Hord & Sommers, 2008). This essential process of norming the goals and values of the organization is not always seamless, but rather asks teachers to   reflect critically on both their practices and the assumptions behind them. "Altering beliefs, expectations, and habits that have gone largely unexamined for many years is a complex, messy, and challenging task. Furthermore, any existing culture is a powerful representation of the status

quo and will typically resist attempts to change it" (DuFour & Eaker, 1998, p. 133). Accordingly, teachers who have become accustomed to the standardized multiple-choice format prevalent during the NCLB era may be hesitant to adopt a new structure quickly.

If teachers are to be asked to modify a practice, including those involved in formative assessment, they must first consider what it is they do and why they do it before moving forward. Teachers who engage in professional collaboration increase their technical knowledge, and thus, instructional effectiveness, by engaging in conversations around their collective actions. Those who do so in the collaborative company of their peers are able to gain skills and knowledge related to both best practices and to their individual content area that can truly impact teaching and learning not just in their classroom, but within and across grade levels. "Teachers observe and adapt their teaching approaches to meet the needs of all students, and they do this more thoroughly and systematically than do teachers in traditionally organized schools" (Hord & Sommers, 2008, p. 19). Such collaboration need not be prescriptive, but rather by utilizing an adaptive rather than programmatic

approach to school reform, it is possible to engage all stakeholders in the practice of school improvement with both structure and autonomy (Rowan & Miller, 2007).

Section 2: Contextual Analysis

Rural Schools

Since the early 1990s, rural educational research has been acknowledged as an area deserving of further investigation (Stern, 1994). Although the extant literature has described rural schools and the characteristics that distinguish rural students, it may be difficult to define simply what constitutes a rural school. In his final article as the acting editor of The Journal of Research in Rural Education, Theodore Coladarci acknowledged this challenge, saying, "There is no single definition of rural, as any reader of rural education research quickly and often incredulously learns" (2007). Despite the difficulties in gaining consensus around the definition of rural education, Coladarci concluded that a student population of 2,500 or less was the generally accepted figure (2007), thus, with a population of slightly over 1,700 students, WCSD comfortably falls within this realm of rural schools. The nuances of rural schools are as diverse as the geographical settings in which these schools are found. Due to this uniqueness, a key component of authenticity in any research involving rural education is to ensure that sufficient time is allocated to accurately and thoroughly describe the specific context of the studied institutions (Coladarci, 2007). Current classification systems allow for policymakers to consider the size and scope of rural districts as they relate to the landscape of American public education.

In the 2009-10 school year there were 31,946 schools classified as rural, comprising 32% of America's public schools (National Center for Education Statistics, 2010). While these schools make up a substantial portion of public schools, education research is often dedicated to their more urban and suburban counterparts.

Westside Consolidated School District (WCSD)

WCSD is located 10 miles outside of Jonesboro, Arkansas, a city of 67,263 residents (US Census Bureau, 2010). Under the NCES classification system, WCSD is classified as distant in the rural classification system:

> Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
> *(National Center for Education Statistics, 2010)*

WCSD is not unlike the other 11,000 schools that fall under the same classification. This substantial number and the unique nature of rural schools warrant research efforts that could benefit administrators in these settings, but there is a paucity of literature on rural education.

WCSD is located in unincorporated Craighead County, in northeast Arkansas, a 45-minute drive from the Arkansas/Tennessee state line. The state is home to 244 school districts across its 75 counties, making small districts prevalent in the state. Comparatively, the neighboring state of Tennessee has 140 school districts across 95 counties. Westside draws from the three communities of Cash, Bono, and Egypt,

each of which originally maintained their own school district before combining into WCSD in 1966. Despite covering an area of 220 square miles, the WCSD's student enrollment is just over 1,700 total students, resulting in a density of about 7.7 students per square mile.

The demographic portrait of the district indicates that WCSD is predominately white (95%), with an additional 4% identified as African American and 1% as Hispanic. WCSD is more diverse socio-economically, with 60% of students qualifying for free or reduced price lunch. The district reports that 6% of students qualify as gifted and 13% of students are classified as special education. Overall, WCSD is comprised of a majority white population with a substantial number of economically disadvantaged students.

Section 3: Methods

Data Collection and Analysis

In order to address the project questions and examine formative assessment practices, the Capstone team conducted interviews, administered a formative assessment reflection protocol, and reviewed the results from a nationally accredited firm's evaluation of WCSD assessment practices.

Interviews

An interview protocol (Appendices 1 & 2) was developed based on the contextual framework and guiding research questions. The first set of questions was designed to uncover current assessment practices in use in WCSD classrooms. Broadly, these interview questions sought responses to the question "What are current teachers using for formative assessment and how are they using it?". An initial document review of assessments provided by the district led the team to consider that the assessments administered to students varied widely from school to school and from class to class. The next question sought to explore: "How do teachers use assessments?", as formative

assessment includes not only the product that is used and how often it is used, but also how the results inform future instruction.

The next section explored the rationale behind teachers' assessments examining "Why are they using it?", and the possible policy and resource constraints that impact teachers' practices. In the last section of the interview protocol, teachers were asked to reflect on practices to determine their readiness towards best practices in formative assessment.

Interviews were conducted in the elementary, middle, and high school with one team member assigned to each school. These interviews included 28 teachers at the high school, 20 teachers at the middle school, and 28 teachers at the elementary school. Interviews were conducted in pairs or small groups. The superintendent and school level principals were interviewed individually. In total, 81 interviews were conducted. Interview schedules were determined in advance to take advantage of teachers' existing planning periods and meeting times. All interviews were audio recorded

using a high definition recorder application, VoiceRecorder HD, which created easily exportable audio files to be shared with a transcription service. Once the interviews were transcribed, each researcher prepared materials for analysis by sorting qualitative data into an interview matrix for both teachers and administrators (Figure 2) aligned to the conceptual framework. Emergent trends from the teacher and administrator interviews are reported in the findings.

Reflection Protocol

In order to substantiate the reported data obtained in the interviews, select teachers were asked to complete a formative assessment reflection protocol (Appendix 3) that allowed them to reflect on a specific recent assessment and describe the entire process of administering and providing feedback from the assessment. The protocol was developed using existing research on assessment from leading assessment research, particularly *Classroom Assessment for Student Learning: Doing it Right-Using it Well* by J. Chappuis, Stiggins, S. Chappuis, and Arter (Appendix 4) and *Improving Formative Assessment Practice to Empower Student Learning* by Wylie, Gullickson,

Figure 2. Framework for Qualitative Analysis

Formative Assessment	Collaboration	Rural Schools	Policy
•Understanding •Frequency •Instruments •Best Practice •Administration •Development •Use of data •Alignment	•Communication •Common assessment •Common development •Communication about results •Professional Development •Planning Time •Vertical Planning •Horizontal Planning •Time limitations	•Resources •Closeness of community •Isolation	•State benchmark •Common Core •Arkansas standards •Change orientation •Orientation towards academics

Cummings, Egelson*,* Noakes, Norman, and Veeter (Appendix 5). These frameworks align significantly and the combination of these two processes yields a powerful instrument for appraising assessment practices.

Assessment begins with clear purpose and clear targets, (Chappuis et al., 2012) where intended outcomes of learning are clearly stated and shared (Wylie et al., 2012) so that students know what is expected of them and what they will need to do to show that they have learned the material. These assessments must be designed to collect quality evidence that informs teaching and improves learning (Wylie et al., 2012). After assessments are given, teachers must conduct effective communication (Chappuis et al., 2012) and provide formative feedback to improve learning (Wylie et al., 2012) as a result of the students' performance on assessments. Finally, assessment results should have an element of student involvement, wherein they are engaged in the assessment process and, to the extent possible, in planning their own next steps for learning (Wylie et al., 2012).

The formative assessment reflection protocol was sent to math, reading, and language arts teachers who provided evidence of formative

assessment practices in their prior interviews. These teachers were selected based on their students' participation in high stakes testing across all three schools. The protocol asked them to reflect on a particular recent assessment and to analyze their practice surrounding the administration of that assessment. This instrument acted as both a meta-cognitive exercise for the teachers as well as a diagnostic tool for the team to match teachers' responses to best practices. Prior to the administration of the assessment, a matrix was developed for evaluating responses along the assessment criteria in the literature. A total of 32 reflection surveys were distributed, to be completed electronically, and a total of 22 responses were submitted district-wide, including seven from the elementary school, seven from the middle school, and eight from the high school.

In order to ensure consistency in the scoring process, the team worked together to determine whether each response showed evidence of the assessment standard and alignment between learning targets and assessment method. The team utilized Chappuis et al.'s Target-Method Match (2012; Appendix 6) in order to match what teachers claimed to be

testing and how they tested it. Each assessment was evaluated on how well it matched a teacher's goals. This process illuminated trends among more specific practices in the district that will inform recommendations.

AdvancED

The team obtained accreditation survey data from WCSD that provided information on the following elements of the organization: purpose and direction; governance and leadership; teaching and assessing for learning; resources and support systems; and using results for continuous improvement. From the AdvancEd data and survey responses, the team was able to provide additional supporting evidence for findings discovered trough the interviews and reflection protocol. AdvancED is an accreditation process born out of the North Central Association Commission on Accreditation and School Improvement (NCA CASI) and the Southern Association of Colleges and Schools (SACS CASI) that provides schools with a thorough evaluation of school and district policy. The data presented here was collected in March of 2010 from 4 administrators, 52 teachers, 14 support staff, 15 parents and business partners, 68

students, and 3 Board of Education members, for a total of 156 stakeholders. A 2011 pilot study conducted by Drs. Scott Weaver and John Barile using data from 285 schools determined the validity and reliability of the 2010 AdvancED survey (2011).

Limitations

While there are inherent barriers in conducting a study of this magnitude given the constraints of the Capstone format, there existed others in the development and implementation of the project as well. The school district's size can be considered an asset in that it fosters community and family, but it also results in a smaller sample size for the research. While the team was interested in collecting data on assessment scores and student achievement, sample sizes were small, making it difficult to aggregate a significant mass of survey data. The data systems in the district were not easily accessible and took significant human resources from the small administrative offices to compile quantitative data in a usable format. The small size of the district hindered the study quantitatively, but helped qualitatively, allowing for interviews with nearly all of the teachers and

administrators. This provided a clear view of the district's assessment practices and the unique temporal and geographical context in which the school system exists. It also allowed for each researcher to develop a rapport with the administrators in the district, which was useful when data was needed in a timely manner.

Access to the school district posed an additional limitation, both in regards to time and the ability to conduct research on-site. In order to follow assessment procedures from start to finish, observations would ideally last over a number of weeks. Given the nature of the Capstone project it would have been a significant challenge to observe the entire formative assessment procedure; however, the reflection protocol allowed for teachers to respond candidly about the entire process of assessment (before, during, and after), a process that would take multiple days and possibly several weeks in the classroom. A threat to the internal validity of the formative assessment reflection protocol is that teachers self-reported the data and may have amplified the reality of their assessment practices.

Furthermore, the protocol was distributed to only a subset of the teachers in WCSD,

specifically math, reading, and language arts teachers who demonstrated evidence of formative assessment practices in the course of their interview. Formative assessment practices are especially essential in these content areas, given that they are among the highest-stakes courses based on accountability measures linked to their outcomes. While teachers across all three tiers submitted responses that should reflect a variety of experiences, the results may limit the ability to extrapolate the findings to other groups. An additional threat to the external validity of this research is the small rural setting in WCSD, which makes it difficult to extend the results to other contexts, although this is not the purpose of the research. These findings and recommendations should be considered and utilized specifically for the purpose of improving formative assessment practices in Westside Consolidated School District.

Section 4.1: Findings. Current Assessment Practices and Alignment to Research

Formative assessment is often considered assessment for learning as opposed to summative assessment, which is thought of as assessment of learning (Chappuis et al., 2012; Wiliam, 2011; Marzano, 2010). This distinction indicates that formative assessment should be used to aid in teachers and students in determining which skills have been mastered and which require additional practice in order to prepare for higher-stakes testing, such as the annual Arkansas Benchmark exam. While formative assessment takes many forms and can be woven throughout a lesson as teachers both seek and receive ongoing feedback from students, formative assessment must also must be carefully planned in order to provide clear opportunities for students to demonstrate their knowledge and for teachers to use that information to modify and adjust instruction to meet student needs (Wylie et al., 2012). For this reason, in order to evaluate the effectiveness of formative assessment, it is necessary to trace teacher practices from the identification of

learning targets, through the development and implementation of the assessment, to the delivery of feedback to students and subsequent instruction.

A Clear Message

Throughout interviews, teachers indicated an understanding that formative assessment is an essential component of effective instruction and should be integrated into their classroom practices. An expectation from administration was evident and teachers demonstrated a procedural knowledge of the basic elements required for implementation.

Pre-assessment

Just over half of teachers who completed the formative assessment reflection provided evidence of timely pre-assessment of knowledge related to discrete skills and consistently monitoring progress towards mastery of the learning target. Middle school teachers and math teachers were more likely to monitor progress following a pre-assessment, while language arts teachers were slightly less likely to do so. In the learning process, it is helpful to administer a pre-assessment to determine what students

know at the beginning of the year. Few schools have a formalized process for pre-assessment, so it is generally up to the teacher to develop an instrument capable of determining baseline knowledge. While students come to teachers with test scores and information from the prior year, in the absence of a comprehensive pre-assessment, teachers can pre-assess at the beginning of each unit to establish a baseline of student knowledge.

In interviews, one elementary teacher remarked, "I like to always assess before, because I don't want to waste time on things that the students already know and it kind of gives me a baseline". This teacher showed understanding of the use of pre-assessment and indicated that she uses it frequently in her practice. A math teacher commented, "We do a pre and post math test. We give the same test at the beginning of the year and at the end to show growth". Pre-assessment of student skills is a strength across the district, as teachers consistently demonstrated a clear understanding of its importance. This is significant, as without such an activity, teachers may be providing instruction that is misaligned with the needs of the students being served.

Modifying Instruction

Pre-assessments should act as tools for the teacher to evaluate and, when necessary, alter instructional practices. Sometimes, the assessments may determine future grouping and differentiation strategies. Other curricular modifications may include spending more or less time on a learning target, utilizing more than one method of instruction for difficult-to-comprehend topics, or aligning the assessment to more clearly match the target or standard. While the majority of teachers indicated the use of pre-assessment, just over half of teachers provided clear evidence that they modified instruction in response to its results. This figure was slightly higher in high school where more teachers reported utilizing feedback from formative assessment to modify and adjust instruction to meet student needs. As noted, teachers understand the need for pre-assessment, but it is not sufficiently embedded in their practice to contribute meaningfully to driving instruction.

Re-teaching was a common method for modifying instruction in WCSD, but does not encompass the entire realm of possible modifications that teachers could make. A middle school teacher remarked, "Sometimes I have to

re-teach depending on if it is something that the majority of the students didn't master, then that tells me I need to do more work with that." An elementary teacher added, "If certain kids missed the question and it is only those couple of kids and I already know they have difficulty I know that's just a point where I need to hit. A lot of times I will make checklists and charts just to kind of see where I need to go. That's easier done in math than it is reading"

Some teachers, especially at the middle and high schools, felt that modifying and re-teaching could limit the amount of material that they were able to cover in the year. Their responses indicated that modifying instruction created time limitations and that there were trade-offs made when teachers go back to re-teach the material. A middle school teacher remarked, "I think we get overwhelmed in the fact that there is so much to teach and so little time. At what point do you keep going backwards before you have to keep moving forwards?"

High school teachers had a similar reaction to the idea of re-teaching or modifying

> *"At what point do you move backwards before you have to keep moving forwards?"*
> *-Teacher*

instruction based on assessment results. "I mean you can't stay on one chapter until you get 100% or you're never going to get anything covered. No, I don't feel like they have it and I don't know how to fix that." This comment was illustrative of a sentiment shared by many teachers and a concern about the pacing necessary to teach sufficient content in the course of the year while also ensuring student mastery.

A "Hodgepodge" of Assessments

Evidence from collected documents, interviews, and the formative assessment reflection protocol suggest that there are a wide variety of assessments used in the district. Teachers used items released from the Arkansas Benchmark, textbook-manufactured tests, teacher-created tests, reading and math assessments such as DIBELS and STAR, and a generally inconsistent combination of assessment tools.

Consistency aids in formative assessment by permitting evaluation across classrooms, discerning which teachers are doing a good job at teaching certain subjects. For

instance, if a 3rd grade math teacher has mastered teaching multiplication, and it shows in her formative assessment scores relative to others, that teacher may be able to share with her peers the teaching strategies that yielded those results. It is also helpful to administer the same test across classrooms at the same time to discover if one teacher is the only one having difficulty teaching a particular standard or if others are experiencing the same challenge.

> *"I think people have picked it up in a variety of ways and it's been a hodgepodge, nothing consistently organized."*
>
> *- Administrator*

Ultimately, this allows teachers to revise both their instruction and the assessment for future use. Administering the same formative assessments instruments and the development of consistent grading or scoring procedures can create better assessment products for both students and teachers. Assessments that vary across grade levels and subjects from teacher to teacher make it challenging to develop a comprehensive system of formative assessment system across a district.

Two administrators used the word "hodgepodge" to describe the assessment practices in WCSD, indicating an awareness that there was room for improvement in the consistency of assessments and their administration. "Honestly, formative assessment can be so misunderstood that I think people have picked it up in a variety of ways and it's been a hodgepodge, nothing consistently organized, if that makes any sense." Another added, "Right now it is scattered. It's kind of a hodgepodge of things." Responses capture the consistent finding that the assessments in use are inconsistent and unstandardized, which results in high variance throughout the system and across grade levels. As a result, using formative assessment data to evaluate progress towards proficiency on year-end exams can be very challenging.

Structure Without Content

A review of instructional practices, utilizing both interviews and the reflection protocol, indicates a process-driven approach to formative assessment that recognizes structures, but not the content necessary to make them meaningful. These structures should begin with

clear targets that aid students in knowing what is expected of them and how they can demonstrate mastery of what is being taught. The first step to learning is identifying what it is to be learned and developing a clear and understandable vision of a learning target that allows for students to become active members of the learning process (Chappuis, 2005). These targets come from the identified standard set by school districts, states, and national bodies.

Standards and Learning Targets

The implementation of the Common Core State Standards has put teachers and administrators in a transitional phase, in which teachers are accountable for state standards and assessments, but must begin experimenting with the Common Core curriculum. In anticipation of meeting these higher standards, teachers have quickly adapted their practice to teach the Common Core as well as the existing Arkansas Framework and many teachers and administrators in the system described the difficulties in straddling these two different curricula. Already the Common Core has had an impact on their classroom curriculum and assessment choices. A middle school teacher describes the problem of meeting both the existing standards and the Common Core, "My biggest challenge is that our Frameworks in Arkansas are so different than the standards brought in by Common Core." Administrators mirrored these comments in describing the transition from state benchmarks to the Common Core. "We are in that transition in the middle, and we've got some teachers that are afraid to let it go and are still using the frameworks." Another added, "We're nervous in that we don't know what the assessment looks like yet. We still have to be tested with Arkansas standards, so we're still trying to get in the happy medium."

In schools across the nation teachers and administrators are attempting to navigate the shift from one era of accountability to another. During this transition, in order to truly engage students as active participants in the learning process, it is necessary to share with them the objectives for each lesson or unit. These goals, referred to here as learning targets, aid both the teacher and student in setting a course for learning and for gauging progress towards mastery of a given task. While content standards are often the basis for such targets, they may be written in language

that students may find difficult to access or comprehend.

For this reason, it is necessary to deconstruct these standards and communicate them in a more student-friendly manner. Of those completing the reflection protocol, the majority of teachers self-reported that they communicated a target to their students in an accessible form, often by posting it on the board and communicating it orally. Only half of elementary school teachers reported providing this information to their students, notable since these young children are often in need of assistance in discerning standards and objectives. Math teachers at all levels were most likely to provide a comprehensible target to their students.

Clear learning targets, communicated in language that is accessible to students, are important because they give students a sense of what they are to learn and allow them to monitor their progress throughout the learning process. "Absent clear targets, students lack the information they need to self-assess, set goals, and act on the descriptive feedback they receive. Poorly defined learning expectations cause similar problems to poorly defined behavior expectations—confusion and conflict—which set

students up for failure down the road" (Chappuis et al., 2012, p. 68).

While many teachers demonstrated an understanding that learning targets were necessary, less than one-third provided evidence of a learning target that was properly classified by the type of learning taking place. The classification of a learning target as either knowledge, reasoning, skill, or product is essential because it permits the proper deconstruction of each content standard and supports the selection of an appropriate method of assessment (Chappuis et al., 2012). This number was slightly higher in middle school and lower in high school. Nearly a quarter of all respondent teachers provided a target that was unclear or overly broad and could therefore not be classified.

Assessment Methods

In order to provide effective data on the learning taking place, the structure of a given assessment must match the learning target being assessed. "The accuracy of any classroom assessment depends on selecting the appropriate assessment method that matches the achievement target to be assessed" (Chappuis et al., 2012, p. 93). Utilizing Chappuis

et al.'s Target-Method match approach (2012; Appendix 6), less than one-third of respondent teachers across the district utilized an assessment that was either a "Good" or "Strong" match for their learning target. The remainder utilized what could be considered a "Poor" or "Partial" match, or provided an unclear learning target that could not be matched. Even in high school, where half of teachers accurately matched their assessment method to the learning target being evaluated, there remained a sizable proportion of teachers who evaluated student knowledge on an ill-suited instrument.

Further articulation of alignment between target and assessment can be found in the definition of shared standards of success between students and teachers. In this way "success criteria are directly aligned with learning expectations" and "students and teachers develop a shared understanding of quality work and performance guidelines" (Wylie et al., 2012, p. 27). Less than half of teachers effectively provided students with clear guidance regarding how to be successful on the assessment being described, a figure that was higher in elementary school and lower at the high school level. While some teachers reported reviewing a rubric with

students or providing examples of quality work, the majority relied on methods that were not sufficiently explicit to give students a sense of how to be successful, including study guides or problem sets.

Feedback

Following instruction and assessment, feedback to students is a key component of effective formative assessment (Wylie et al., 2012) and exemplifies this disconnect in current practice between structure and content as teachers provide feedback, but do not use it in a manner that makes it meaningful. In WCSD there is a wide range of what is considered feedback for student learning. While teachers utilize formative assessment to monitor individual and class outcomes, students themselves should also be provided with feedback to guide their own learning. Overall, the majority of teachers indicated that they utilize the results of formative assessment to provide effective feedback to students and individualize that feedback to meet student needs. Elementary staff demonstrated the most consistent use of feedback and differentiation in the type of feedback provided to individual students. While high school teachers

and math teachers did tend to individualize feedback, the format that feedback took was less likely to be presented in an effective manner that could drive student learning.

Many teachers commented broadly on the manner in which they communicated with students about their strengths and weaknesses on assessments, while other teachers equated feedback with students' grades. Responses on the formative assessment reflection protocol suggested that these varying understandings of the importance of student feedback warrant greater consistency in procedures so that students can determine where they are in the learning process.

Teachers at all levels commented on the practice of re-teaching content based on student need; however, this was not a universal practice. As one described, "I guess you look at mistakes made, or as they talk through it, maybe misconceptions they have." Multiple teachers remarked that after an assessment they might go over questions they missed and multiple variations of recording it in the grade book were reported in teacher interviews when

asked about the method in which feedback was returned to students. Teachers also felt that reporting grades in the online grade reporting system to parents was evidence of sufficient feedback and in many classrooms grades may be the only feedback students receive.

Feedback is an important component of formative assessment practice, but it is most effective when students are able to put that guidance into practice. "Feedback should help them think about the next steps they can take. Most important, students need an opportunity to actually use the feedback" (Wylie et al., 2012, p. 25).

Unfortunately, less than a fifth of teachers reported that students were given the opportunity to revise and resubmit their work, which would allow them to improve upon their learning and utilize teacher guidance to advance towards mastery of the specified learning target. Although math teachers district-wide were most likely to permit their students the chance to edit and turn in work again, this proportion still fell well below the majority.

> *"Feedback should help them think about the next steps they can take...students need an opportunity to actually use the feedback."*
> *(Wylie et al., 2012, p. 25)*

Self-Assessment and Goal Setting

The best assessment practices are those that permit feedback to students to learn from mistakes and allow teachers to modify instruction based on the results of the assessment. Descriptive feedback requires a careful assessment of student work that can be challenging given the time constraints that can exist in practice. In order to avoid redundancies or gaps in instruction, an effective formative assessment process can allow teachers to carefully tailor content to the current group of students (Wylie et al., 2012). It allows teachers to spend more time on the topics that students need extra help with, and less time on those that they have already mastered. "The more involved students are in keeping track of achievement, the more in touch they are with their own progress, which has positive motivational benefits" (Chappuis et al., 2012, p. 26). Feedback to students and modifying instruction after an assessment are important components of the assessment process.

Student engagement in the learning process is strengthened when students are able to assess the quality of their own work or that of their peers (Wylie et al., 2012). One third of all respondent teachers provided students with occasion to consider the value of their own or a classmate's work. "Any activity that requires students to reflect on what they are learning and to share their progress both reinforces the learning and helps them develop insights into themselves as learners" (Chappuis et al., 2012, p. 34). While not the same set of staff, district-wide, a third of those completing the reflection protocol utilized self-assessments to guide students in making learning goals.

Middle school teachers were the least likely to implement self-evaluation techniques, although they were slightly more likely to have students set goals, sometimes in the form of individual conferences. In contrast, about half of high school teachers utilized self-assessment or peer feedback, possibly a reflection of the age and maturity of the students they serve. Less than half of all teachers provided a structure for students to track their progress over time in order to contribute to an extended plan for learning. When teachers make decisions based on data with the student, it becomes very clear to them how that information can be used to advance their own learning. Too often in classrooms,

including those in WCSD, it is assumed that students know what they need to do to be successful, but this may not always be the case.

Limited Time

The need for increased time was a consistent sentiment across WCSD, as teachers sought ways to both collaborate with colleagues and reach students' instructional needs. Likely due in part to the size of the schools in WCSD, shared practices in the realm of assessments were minimal. Only a third of all teachers reported developing assessments collaboratively and even less indicated that they scored them with their colleagues.

Collaboration

The benefits of collaboration are derived from teachers being able to share best practices, refine ideas, and ensure reliability in scoring; however, the fact that there are often few teachers in each grade level in WCSD limits this type of work. Interestingly, these numbers were slightly higher in high school, where in many cases there is only one teacher per subject per

> *"...hit and miss at lunch or maybe in the hallway before, you know, we share information that way, but we don't actually have a common planning period."*   *-Teacher*

grade level. No teachers reported scoring assessments in pairs or groups in the middle school and only one did so in elementary school. Teachers at the elementary school do not have a common planning period, so shared materials have not been given the time for quality research and development that would provide a strong assessment. Even without a shared time, many of the elementary teachers created opportunities by coordinating in other ways, although this does not lend itself to the kind of thoughtful, professional work that would allow them to develop quality assessments. Several elementary teachers specifically described these lunch meetings. "We actually don't have a common planning period, so it's try to hit and miss at lunch or maybe in the hallway before, you know, we share information that way, but we don't actually have a common planning period."

Teachers were acutely aware of this scheduling dilemma as well as its impact on their practice. In the middle school and high school, teachers have common planning times but feel

that they are often taken up by other obligations. Several middle school teachers commented that meetings and other responsibilities took up the majority of the planning time. "We have a common planning period but four out of the five we are doing things like today." Teachers demonstrated a willingness to collaborate, but this theme of constrained planning time ran throughout the interviews and was an area of concern among teachers at all levels.

Time and Testing

As data use becomes increasingly important in the educational improvement process, there has been increasing attention to regular interim testing that allows teachers and administrators to collect data. This assessment, however, takes up instructional time and the proliferation of testing has given pause to many educators who feel that it has dominated curriculum and instruction. Interview data indicated a general sense that instructional time is limited and that taking the time to reteach is inefficient. The implementation of a high-quality process of formative assessment, however, utilizes existing student knowledge to ensure sufficient progress over time. Concern about

testing was evident among the teachers at WCSD, particularly in the elementary and middle schools.

Elementary teachers were concerned that students were over-tested. One elementary teacher expressed her concern regarding over-testing: "I wish there was not as much assessment. I think that we can test them to death and I think that we can also do overkill of testing." Another elementary teacher described the assessment as "the carrot they dangle in front of you". At the middle school one teacher commented on teaching to the test, "I feel pressured to make sure they are reading, but I feel like I put too much assessment on that when that's not what they're being assessed on when they get to the Benchmark."

Assessment has taken a larger role in classrooms as results drive instruction and decision-making. Teachers in WCSD indicated a sense of being overwhelmed by the demands of testing and its impact on their practices. As formative assessment initiatives move forward in WCSD, it is important that school and district leaders are responsive to teacher concerns and seek solutions that allow for regular feedback cycles without monopolizing instructional time.

Section 4.2: Findings. Assets and Obstacles to the Implementation of Formative Assessment

Similar to many other organizations, WCSD has its own unique context and climate and these elements must be considered when investigating WCSD's formative assessment practices. The detailed investigation of the interviews, survey responses, and the AdvancEd accreditation evaluation contribute to a detailed portrait of WCSD.

A preliminary overarching factor relevant to WCSD is the small and rural nature of the district. The specifics of how the small rural nature of WCSD impacts all aspects of the district can be hard to measure; however, an elementary school teacher attempted to synthesize the uniqueness of the community and its impact on schools. "The smaller the district, the smaller the class size, the more personal you can be with the parents and the students and I think that's a help." The sense of community and care that is deeply ingrained in WCSD is one of the districts biggest assets and one that was shared repeatedly throughout the interviews.

Assets

Community

Under the AdvancEd accreditation process in 2010, only one standard in the Quality Assurance Report (QAR) received the ranking of "Highly Functional": "Stakeholder Communications and Relationships" (Prater et al., 2010).

> "Teacher and other staff members are in regular contact with parents concerning the academic progress of their students. The district has high levels of participation in parent-teacher conferences and fosters the development of relationships with the parents. Parents shared the district is proactive in seeking input from stakeholders such as holding community meetings to express concerns and ideas to the incoming superintendent.
>
> The district highly values parental involvement in students' learning and has developed a well-organized volunteer program. Parents, grandparents, and other community patrons feel welcomed and valued as contributing members of the district's learning community.
>
> The district has an active PTA with dedicated leadership. These examples of open communication and collaboration are all evidence of a system focused on student learning and continued success."
> (Prater et al., 2010)

These findings were echoed in the current interviews as teachers openly made statements revealing a collective sense of

community across numerous levels. One elementary teacher noted, "We will get to know each and every child. We take care of one another's children," a sentiment echoed in the middle school. "I think it is actually easier at a small district because I know my kids. I know a lot of their parents. I have email contact with them. They're not just a face in a crowd." Throughout the interviews, the sense of community and shared responsibility was palpable and contributed to an overall collegiality among the staff.

Additionally, teachers use this familiarity to communicate about students' current level of proficiency in various skills. One elementary teacher elaborated upon this utilization of the community asset to formative assessment, "We know, not only do we know all of our students, we know pretty much the other teachers' students as well. So that makes a huge difference to know who is behind and who is on pace and who is ahead." The strong sense of community in

> *"We take care of one another's children."*
>
> *"They're not just a face in the crowd."*
>
> *"Not only do we know all of our students, we know...the other teachers' students as well."*
> *-Teachers*

WCSD influences all areas, from academics to extra-curricular activities; it enhances relationships, and aids communication. The benefit of this component is overarching and could potentially be relied upon heavily to help the district further improve their formative assessment processes.

Articulation of Expectations

Throughout the interviews, feelings regarding the expectations of district and school leadership on the utilization of various formative assessment practices were clear. As one administrator shared, "Right now, my approach to it is it needs to be done, you know, on a daily basis. It doesn't have to be a written test every day, but some type of informal assessment to get the kids to...understand what they know." This expectation has been clearly understood by the staff; however, how assessment should be implemented is less defined, which results in inconsistent practices. A high school teacher

reflected the expectation of leadership, but indicated the lack of collective practices between teachers. "I mean, I think other than just kind of stipulation we need to be, which we do it anyway… we pretty much have the freedom to do however…". Teachers clearly understand that they should be doing formative assessment, but there exists little shared understanding about how it should be conducted.

Teachers have already begun to utilize formative assessments in their classrooms, which is a key preliminary step to implementing more systematic practices to facilitate student learning. Although there are some positive components of the district's current expectations, there are also some components that provide challenges to increasing the effectiveness of formative assessment practices, and in the end improving the level of student achievement. The next steps involve incorporating the practices of conducting and utilizing formative assessment to drive instruction into the daily practices, conversations, and lessons across the district.

Obstacles

Shifting Focus

The increased accountability for student achievement, as well as shifting standards, is another obstacle for WCSD. Throughout the interviews this was a constant recurring theme at all levels of the district. At the elementary level, this was presented as concern regarding to Common Core Standards: "…you can't really throw one out. I mean, they will say adopt Common Core, but, yeah, we're still going to be tested in April."

Teachers across the district felt unsettled by constantly shifting priorities among school and district leadership. "It's always something different. Like before Common Core I would have to say it was literacy lab. You know, that was the big thing. Whatever the push is, that's what we're going to go for." The transition time between different accountability systems makes determining what to teach and assess challenging. In a small district that, because of its size, often has only one teacher per subject in each grade, these instructional decisions rest primarily on the shoulders of individual teachers. As of late, expectations and requirements have

been in such flux that the time required to develop a comprehensive assessment system for any one metric has been severely hampered.

Consistency of Expectations

While there are some positive components to the expectations regarding formative assessment across WCSD, at the current time, these expectations also provide some obstacles towards a more effective implementation of formative assessment practices. Currently, teachers know that they should be conducting formative assessments of students, but despite this understanding, there is uncertainty around the types of assessments and practices that should be implemented. This confusion in regards to the specifics of formative assessment has led to a lack of clarity in intentional assessment practices.

Teachers are currently making assumptions about how they should be conducting formative assessments, which leaves many teachers to guess without clear or consistent guidance as to what administrators expect or what is instructionally appropriate. As one high school teacher observed, "I think they're wanting

us to do more of the open-ended stuff. They're wanting us to do more writing, more analysis. They're trying to get us to get in the upper…try to think out of the norm there." This implementation of activities without a clear rationale for teachers contributes to uncertainty about how multiple initiatives fit together to support student achievement, again leaving teachers to guess.

Funding and Resources

Another prevalent perception in WCSD is that more resources, especially in the form of technology, are needed. In the course of interviews, teachers expressed an understanding of how technology could be used for more frequent assessment as well as for more immediate feedback to students as they take assessments. While the use of technology for assessment is not in itself a best practice, it often facilitates the prompt, accurate evaluation of student progress. Although some of the assessment systems currently utilized in WCSD can be administered online, access to sufficient computers was cited as being a challenge. The majority of assessments in the district seemed to be conducted in paper and pencil format to most

accurately match the multiple choice format of the Arkansas Benchmark and End of Course exams.

Several teachers indicated the use of student response systems ("clickers") that allow students to select an answer and provide immediate feedback regarding student achievement. Elementary teachers received training on a program called Socrative, which functions similarly, but is a free online assessment that students can take from their computer or personal device. The teachers seemed enthusiastic about the tool and wanted to try it in their classrooms since the clickers were not always readily available. An elementary teacher commented on experimenting with these devices in a short time that they were available to her. "I experimented with the clickers, you know? So if we had something like that because I did use that for that time that I had that in my class-room. That was just an experimental thing for us."

Teachers are only able to use technology if it is available for use; however, in addition to access, teachers must also be trained in the application of technology to ensure effective implementation. While some technology is fairly intuitive, many have a number of features that teachers will not have time to explore if they don't have sufficient training to introduce them to these features. One elementary teacher commented that "it's got to be available and we've got to have training in order to use it".

At the high school level some teachers commented about using the Scantron machine to analyze the data more efficiently and make grad-ing procedures easier. "We do finally have a Scantron, so that's been a very beneficial thing because you can item analysis and I've even used it some." Despite teacher satisfaction with the machine, an administrator was not sure how many teachers were utilizing all of the aspects of the Scantron, including its ability to support the analysis of data. "With the Scantron machine they are able to do that a little better, but how deep they get, I don't know. I hope they're get-ting deeper than what we have in the past."

Throughout the interviews, teachers indicated enthusiasm about any kind of assessment that did not feel like a traditional paper and pencil test to the students. If some-thing could be administered in an engaging format through technology, students may be more engaged and it may give a more accurate picture of what students know at more frequent

intervals. As one administrator commented, "If we can put it in an engaging format on their devices, you won't even realize what you're doing."

Professional development is a key obstacle for a small district like WCSD. Although there are opportunities provided inside the district and around the state, limited resources, other instructional responsibilities, and a lack of information all prevent teachers from receiving applicable professional development. Throughout the interviews, teachers inside the district indicated a desire for increased professional development, but not all are able to access it. Regarding the decision on who to send to a recent statewide workshop, one teacher reflected, "You know we rock, paper, scissors and she won." Another teacher commented on available professional development and the usefulness of state provided samples for assessments. "I haven't really had a lot of PD, especially like the new type of assessments, I mean, what we've gotten from the state depart-ment is very, very miniscule. We have like one sample."

Finally, some teachers who have been looking to incorporate more technology into their instruction feel ill prepared to do so. As one teacher noted, "They don't give us the training that's necessary to be able to do all of that." While the availability of technology is certainly important, so too is the training that allows them to integrate it into their practice in a meaningful way. As discussed previously, professional development regarding the use of technology is essential to effective implementation. Without it, teachers are again asked to intuit the expectation from leadership about what should be done, and how.

Section 5: Discussion

The purpose of this project was to examine current formative assessment practices in WCSD and to evaluate the alignment of those practices to the extant research. Utilizing a qualitative approach, data were collected using a variety of methods and instruments, including a document review, interviews, and a reflection protocol. The conceptual framework underlying all of this work involved the literature on formative assessment, professional learning communities, and the small rural context in which WCSD teachers practice. These findings will inform recommendations for enhancing formative assessment practices in WCSD.

Strong Sense of Community

One benefit of the size of WCSD is the sense of community and collegiality that develops among the teaching staff and community. Conversations with teachers and staff illustrated strong personal bonds and a shared sense of responsibility for student outcomes across the school. Data from the AdvancEd surveys extend that sense of community beyond the school as parents indicate a deep sense of involvement and engagement in school processes. Stakeholders in WCSD seem to care about each other and, most importantly, about the students they serve, a key prerequisite in developing an environment of continuous learning and improvement. The teachers in WCSD have their own set of norms and values that thread through daily life in the building. In schools, "expected ways of interacting provide a safe environment where students and teachers look forward to engaging in supported learning" (Huffman & Hipp, 2003, p. 40). It is considered an asset that WCSD teachers share a sense of community and feel that they are part of a family that is collectively responsible for all children in the district. Throughout the interviews teachers shared numerous examples of ways in which they mutually supported each other throughout the school day and beyond.

While teachers and staff demonstrate personal investment in their relationships with each other, these strong bonds did not necessarily extend into a similar level of professional support. As one administrator noted,

"...yes, we're like a family, but we need to be a professional family as well." Although teachers provided evidence of ongoing attempts to collaborate within their school and grade level, the level of professional associations was less evident than the strong interpersonal bonds.

> *"...we need to be a professional family as well".*
> *-Administrator*

This provides a significant opportunity for district leaders to capitalize on this shared trust to engage teachers in a process of shared professional development to improve practices, and ultimately, student outcomes. The level of engagement in the success of all students was high across schools and grade levels; however, it is necessary for teachers to go beyond simple investment in order to develop a shared sense of purpose. Authors DuFour and Eaker, leading researchers in professional learning communities, implore teachers and administrators to "challenge themselves to answer the tougher questions that address the very heart of the purpose of schooling: What is it we expect our students to learn, and how do we fulfill our collective responsibility to ensure that this learning takes place for all of our students?" (1998, p. 62). Teachers expressed confidence in district lead-

ers, which presents a readily available lever for change. In order for shared leadership to occur and for professional learning communities to develop, teachers must assume the responsibility for continuing to develop and sustain shared expectations for learning (Huffman & Hipp, 2003).

Clear Expectations

Building on the personally supportive relationships already in existence within the schools, teachers and staff appear ready to engage in this work in ongoing professional development. It is first necessary, however, for those in administration to set the expectation for what that work should entail. While teachers understand that their formative assessment should be a part of their practice, they appear to be less clear on how they should go about implementing it and utilizing the resulting data to drive student achievement. This ambiguity has resulted in what was repeatedly referred to as a "hodgepodge" of actions and activities with little shared practices between or among staff. Teachers often alluded to what they thought administrators wanted them to do, or resources

that were made available to them, but were unable to communicate how those elements combined into a cohesive vision.

Vertical alignment is the consistent progression from one grade level to the next and the capacity for teachers across grade levels to work with one another. There is a perceived lack of vertical alignment in WCSD, which has created further division in practices across the district. One of the great assets in WCSD is the fact that all of the schools are located on one campus, which presents the opportunity for meaningful communication and collaboration from kindergarten through twelfth grade. While both teachers and administrators communicated that such associations were a goal within the district, there was little evidence that such structures were solidified and barriers were often cited that would impede their formation.

Resource Limitations

While time was frequently identified as an impediment to collaboration, many teachers communicated the belief that there were others that were a more direct result of the size and demographics of the districts. The most readily apparent frustration revolved around the availability of technology and the seeming lack of supplemental human capital. In interviews, teachers alluded to technology and the limitations of accessing it on a regular basis, due either to availability or functionality of devices. Those who did use student response units ("clickers") or automated scoring machines such as a Scantron did so in a manner consistent with best practices on formative assessment; however, these practices were not widespread. While many simply sought an infusion of more technology, others more astutely requested training to utilize these devices in an effective manner. Simply purchasing more technology is not sufficient, as teachers require support in implementation in order to ensure that teachers are using them to promote an ongoing information loop around teaching and learning.

Human Capital

The second key area of perceived lack of resources was in the area of human capital. Throughout the interviews, teachers mentioned the potential benefits of adding a curriculum coordinator, content-area coaches, or other support personnel to assist teachers in developing both instructional and assessment

practices. While the presence of such staff in WCSD is limited, there are pockets of best practices that could be emphasized and shared with others to provide support. As noted previously, while attempts at collaboration are numerous, the true sharing of best practices in a formalized manner is limited, as a result of time, but also potentially due to hesitancy on the part of teachers. As one administrator noted, "When I ask them to share, they are like 'I don't know that I want to share it yet; I'm not ready to. I don't want them to think I know it all.'" Capitalizing on the existing strengths within the district is a key first step in pushing teachers and staff to grow together and administrators "must intentionally plan for transfer of knowledge and skills between professionals" (Hord & Sommers, 2008, p. 79). Asking teachers to share their knowledge is not enough, rather school and district leaders must capitalize on the current relationships between staff members to structure opportunities for teachers to learn from and with each other. To be a true agent of change, principals must work tirelessly to promote the structures and culture necessary for transformation and to engage teachers as leaders in this process (DuFour & Eaker, 1998; Hord & Sommers, 2008).

Professional Learning Community

Of the factors that limited the development of a professional community in WCSD, the most often noted was time. While teachers demonstrated a desire and willingness to collaborate, daily schedules often did not permit shared time, free of students, in which to do so. In the elementary school, teachers often cited the lack of any common planning time, while in the middle and high schools these periods were often taken up with meetings and other necessary tasks that did not afford time to work on instructional and assessment practices. Time is an essential component in the development of a professional community and weekly meetings are recommended to ensure alignment of the team (Hord, 2010). While this may not be feasible given current constraints, it is important that teachers and leaders engage in dialogue around where time may be utilized more effectively in order to allow for the structured sharing of practices between staff.

The lack of common time for planning is evident in the fact that only a third of teachers reported the development of assessments in conjunction with colleagues. The establishments of a shared space in which teachers can discuss

and develop formative assessment practices and instruments benefits both the individual as well as the group as teams grow in their ability to evaluate and respond to student learning needs. "It provides a forum for learning about new formative assessment ideas. It gives members opportunities to talk about the application of new ideas to practice in order to get feedback on the assessment practice. And the community provides a structure for members to learn from each other's experience" (Wylie et al., 2012, p. 73). While teachers most often discussed the lack of available time to collaborate with their grade level team, many also noted the need for vertical alignment with the grades above and below them.

Several teachers discussed specific deficiencies that students arrive in their classroom with, but few were able to articulate structures that permit them to address these weaknesses with teachers in lower grades. This is again an area in which the geographic proximity of the schools, when paired with sufficient time, would permit discussion both within and across schools in order to develop a coherent continuum of learning. Although time is always a limited commodity, there do exist

creative methods of finding opportunities for teachers to share and reflect within the school day, including flexing work schedules, utilizing time during lunch, and relegating administrative issues to email to more effectively use existing meeting time (Hord & Sommers, 2008).

In light of the barriers that exist in implementing a comprehensive professional development program for all teachers, it is necessary to capitalize on existing resources in order to maximize the benefits to all teachers. As noted previously, there are areas within each of the schools in which teachers are utilizing positive practices and structures must be put into place to allow for the sharing of this expertise. Furthermore, the existence of two regional education cooperatives, Northeast Arkansas and Crowley's Ridge, brings professional development opportunities to numerous districts in the region and allows for the investments that might not otherwise exist due to a lack of economies of sufficient scale. The cooperatives determine course topics and offerings based on feedback from member districts; therefore WCSD teachers and administration are able to help determine what is presented. Through the deliberate use of resources, it is possible to both engage existing

strengths within the district and to seek new best practices to share with others in a structured setting. Again, this requires the formalization of expectations from school and district leadership and the prioritization of resources to support the collective goals of the organization.

Formative Assessment

All of the discussion thus far has revolved around the conditions that promote or limit the implementation of effective formative assessment, which lead directly to the quality of practices in use in WCSD. Utilizing feedback from the teacher interviews, which yielded high-level perceptions of assessment activity, as well as the reflection protocol, which yielded more specific examples, relative strengths and weaknesses have been identified. While practices vary across the district both within and between elementary, middle, and high school, there exists clear evidence of trends, which can be utilized to drive professional development in the area of formative assessment. Domains within the project's formative assessment reflection protocol were drawn from the extant literature on formative assessment (Chappuis et al., 2012; Wylie et al., 2012) and the majority of individual questions

were open-ended so that teachers could communicate their practices as they saw fit.

Although no domain indicated universal implementation of a best practice around formative assessment, there were several in which a majority of teachers completing the formative assessment reflection protocol demonstrated sufficient use. The first of these, and the area with the highest evidence of overall teacher application, regarded the use of learning targets. Of those completing the reflection protocol, two-thirds reported that they communicated a learning target to students, most often by posting it on the board and sharing it verbally at the start of a lesson. Elementary teachers were less likely to implement this practice and math teachers across the three tiers were most likely to do so. While learning targets are essential at all levels, in elementary school they are especially important in their ability to make learning outcomes explicit to young students.

In evaluating the learning targets provided through the reflection protocol, it was apparent that while the majority of teachers were communicating goals to students, these teachers were unclear on the type of learning to take place. In developing learning targets, proper

classification is necessary because it ensures clarity, facilitates the deconstruction of content standards, and aids in the selection of an appropriate assessment tool (Chappuis et al., 2012). Given the four types of learning targets (knowledge, reasoning, skill and product), less than a third of teachers who completed the reflection protocol were able to accurately categorize the target they developed. Consequently, a similarly low proportion of teachers utilized a method of assessment that was a "Good" or "Strong" match to the type of learning presented in their target. Overall, nearly a quarter of respondent teachers indicated the use of a target that was not sufficiently narrow to be categorized, such as "concepts that were taught in social studies" or "reading comprehension". Given that all instruction should be rooted in and aligned to a clear learning target in order for teachers and students to accurately gauge progress, the lack of a defined objective provides an unstable foundation for any instruction that follows.

The lack of clear expectations regarding how formative assessment should be carried out has been discussed previously; however, equally important is the articulation of a clear vision for what should be assessed. This is especially important this year, as teachers are held accountable on the year-end Benchmark examination of the Arkansas State Standards but expected to prepare for the Common Core State Standards that will be rolled out universally next year. It is possible that a lack of understanding around the ways in which these two sets of standards align may contribute to the overall deficiency in clear learning targets among teachers. Throughout the interviews many teachers voiced frustration about this fact and lamented being in a transition year in which they were forced to bridge two, often distinct, sets of standards in order to present a cohesive instructional program. While many expressed hope around the increased rigor inherent in the Common Core Standards, it is evident that the conversion has not come without its share of difficulties.

An area of perceived strength among respondent teachers was in providing useful, individualized feedback to students regarding their progress on formative assessments. The majority of teachers indicated that they shared information with students regarding the quality of their work and that they modified the content or

format of that feedback to meet individual learning needs. Most often, this took the form of teacher comments that would permit greater student understanding around their strengths and areas of potential growth. The sharing of qualitative analysis regarding student work is an important supplement to traditional student grades and a key element in promoting ownership of the learning process. "In other words, feedback is not telling students what the correct answer is, but instead giving them enough information to help them advance their learning" (Wylie et al., 2012, p. 25). The consistent use of quality feedback is a significant prerequisite to other vital components of the formative assessment cycle.

> *"...feedback is not telling students what the correct answer is, but instead giving them enough information to help them advance their learning."*
>
> (Wylie et al., 2012, p.25)

Unfortunately, the subsequent steps in this process are not nearly as prevalent in WCSD, indicating that while feedback is provided, it is not always put to proper use. The opportunity to revise and resubmit work is essential to ensure that students are using the results of formative assessment to advance their learning towards an identified target. Of those who completed the reflection protocol, less than one-fifth indicated that students were able to edit and turn in their amended work. Simply providing a grade, or even commentary, without a subsequent chance to put that feedback into practice, limits students in their ability to utilize the experience as a formative learning opportunity (Chappuis et al., 2012; Wylie et al., 2012). Furthermore, students should be able to reflect on their work in a structured manner in order to set goals and contribute to a plan for their own learning (The Joint Committee on Standards for Educational Improvement, 2003). A third of respondent teachers district-wide indicated the use of formative assessment feedback to support students in a goal-setting process and only slightly more aided students in tracking their ongoing learning over time. Regardless of the type of assessment given, if adequate follow-up aligned to learning targets is not provided, teachers miss a key opportunity to engage students in their learning process.

Summary

Throughout both the interviews and the reflection protocol, teachers demonstrated pockets of best practice, as well as areas of deficiency, all of which have been presented here. Apart from these relative highs and lows, there exist several domains that fall somewhere in the middle, where about half of teachers demonstrated use of the practices and roughly the same amount did not. These areas, including the use of pre-assessment and the modification of instruction to meet student needs, are no less important and should be recommended for additional support in the process of implementing an effective process of assessment. In all, no practice rose above 70% implementation across all three tiers and it is therefore important that attention be paid to professional development around formative assessment from start to finish, encompassing all steps from the development of clear learning targets through instruction, evalua-tion, and ultimately feedback to students and stakeholders. This begins with the articulation of a clear vision from school and district leadership regarding what should be assessed and the prioritization of activities aligned with those aims.

Section 6: Recommendations

Resources

WCSD is a small district, meaning that it must be particularly sensitive to how it utilizes fiscal resources. The district simply does not have the capital resources of districts with larger enrollments. Throughout the interviews, staff of WCSD acknowledged this challenge; furthermore, they also expressed a desire for more technology, resources and professional development.

Professional Development Coordination

In an effort to maximize and encourage utilization of resources (money, time and space), the recently developed District Leadership Team (DLT) should be involved in all decisions regarding the use of any discretionary funds. This team is composed of teachers and administrators from all levels of the district. Their charge is to make crucial decisions that will impact the entire district and their involvement in resource allocation decisions will increase transparency of the actual financial situation of the district and encourage responsible actions by all participants in the utilization of resources. The DLT can work

to acquire resources desired by teachers inside the district, while developing a clearer understanding about the actual challenges and possibilities in WCSD.

Professional Development Fidelity

Another evident resource trend is the desire for more effective and available professional development. WCSD has ten days of professional development available each year and the district would benefit from maximizing the productivity of this time by structuring the sessions provided to allow for presentations by experts and the sharing of existing best practices among the staff. All efforts should be made to keep teachers current and informed on practices, assessment, content, and technology applicable to their classroom instructional practices.

Numerous partnerships and professional development opportunities exist for the teachers around WCSD. These include collaborative professional development opportunities with neighboring districts through Crowley's Ridge Educational Cooperative and Northeast Arkansas

Educational Cooperative. Additionally, the local university, Arkansas State University, has a College of Education and the Educational Renewal Zone program. Through these partnerships and opportunities, WCSD's employees can gain knowledge of the new Common Core Standards, and deepen their knowledge and implementation of various formative assessment practices. Attention should be paid to engage these partners in providing embedded professional development that will expose teachers to research-based methods without removing them from their instructional duties.

Individual professional development should be focused around clearly defined district initiatives for the improvement of formative assessment practices. Potential areas of focus run the gamut of formative assessment, from the writing of learning targets in student friendly language to effectively communicating results to students. Ideally, WCSD would collectively focus on a particular component of formative assessment and work to create consistently implemented practices across the entire district before moving on to the next component. This intentionality will help to provide focus on a single

task while avoiding confusion and the potential of over-extending the staff.

Practices

The next set of recommendations involves incorporating evidence-supported assessment practices into the daily routine in WCSD classrooms. By incorporating these recommendations, WCSD can further improve existing formative assessment practices and utilize technology effectively to promote instructional practices across the district.

Book Study

The first recommendation is to establish a book study of quality texts regarding formative assessment such as *Classroom Assessment for Student Learning: Doing It Right-Using It Well* by Chappuis et al. (2012). This book provides a comprehensive look at the most current research and practices on formative assessment. It is also one of the primary sources utilized in the development of the formative assessment reflection protocol implemented in this research. In the course of this study, teachers will become more informed on practices that can be utilized

inside their classrooms, and how these practices help to facilitate student learning.

Evaluation of formative assessment practices should be an ongoing process in which teachers are constantly monitoring the needs of the students and the tools utilized to uncover evidence of student learning. As the teachers engage in a book study, the administrators should utilize a "big picture" framework for formative assessment. An additional resource that will help frame a cycle of continuous improvement around assessment and its impact on instruction and achievement is *Data Wise* by Boudett, City, and Murnane (2010). This text presents a process through which teachers and administrators can increase their data and assessment literacy, with concrete examples from two case study schools. This cycle includes stages to prepare, inquire, and act and is designed to facilitate ongoing reflection in which teachers are constantly evaluating their practices and their effect on student learning. The processes outlined in this text should frame all other recommendations and provide a context for change.

Figure 3. Data Wise Cycle
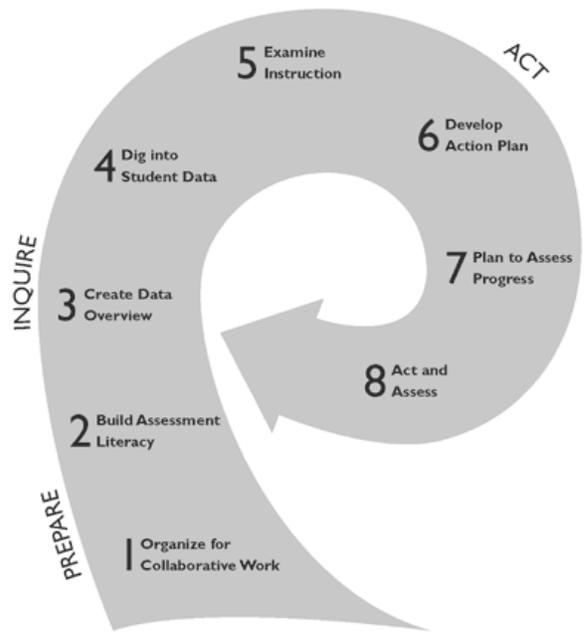
Regular Assessment Evaluations

The use of the Chappuis text will establish a foundation for the next component of the practice recommendation. In an effort to facilitate discussions on classroom assessment practices across WCSD, a self-assessment tool has been provided based on the reflection protocol used as part of this research (Appendix 7). Following the book study, the tool will allow teachers and teams to continuously evaluate assessments to be utilized in the district. The tool should be utilized to effectively promote discussion around formative assessments and to ensure alignment to research-based best

practices while permitting flexibility in the method of assessment. While it contains all of the domains included in the reflection tool used in this research, it is structured chronologically from the initiation of a unit through its conclusion to provide for maximum utility.

This tool is not intended to be prescriptive, but rather a checklist in which teachers and teams can ensure that an assessment instrument contains the elements, from the establishment of a clear learning target to the use of results for goal-setting activities, found in effective formative assessment practices. It is designed to be utilized prior to the initiation of instruction and can be used in multiple contexts. While teachers can use it individually to monitor their own work, ideally it would be implemented in grade-level or content area teams where the resulting dialogue and feedback will promote the shared development of both the individual and collective approach to assessment.

Use of Technology

School and district leaders should initiate a renewed effort towards incorporation of technology into instruction. Throughout the interviews numerous teachers referenced "blocked" or unavailable online resources. Given the limited fiscal resources in WCSD, it is essential that teachers be able to access all available tools, especially those that are available at no cost. The list provided is far from exhaustive, and new technology is being developed daily, but this potential quick win could provide an immediate boost to assessment practices and improve teacher morale regarding the availability of various technologies. As noted previously, professional development should be provided to ensure proper use of all tools.

Available Online Assessment Technology

1) Socrative.com
Socrative is an application that allows for the teacher to build online assessments, which can be administered and scored in real time. The application can be used on any device that will access the internet. This tool can be used for teachers' existing assessment practices and can be shared among other teachers. Teachers can collaborate on development of assessments with little meeting time. Teachers could divide the responsibility of building assessments among a team and share with one another. Technology Requirements: 1:1 or 2:1 on any device would be most useful for this application. www.socrative.com

2) Prezi
Prezi is an innovative presentation tool that allows the presenter to incorporate images and video in a visual representation of the material that is presented. Prezi allows for creativity in the design of a presentation. Students choose layouts that will visually organize material in a way that shows relationships. Technology requirements: Email address, access to video or image sites, works best on a laptop rather than a device. www.prezi.com

3) Popplet
This application allows students to create a visual web of information that can operate as a graphic organizer or an assessment. Students can import graphics and "color code" their information. This assessment can be used to prepare for writing or an assessment after learning about a particular topic. This allows the teacher to see how students are organizing multiple ideas. Technology requirements: Laptops or devices, preferably tablets. www.popplet.com

4) Educreations
Educreations is a video tutorial creator that allows teachers and students to develop quick lessons with a series of images and writing along with a voiceover of the lesson components. The creation of these videos takes a good deal of planning and can give the teacher a good idea of students' understanding of a topic when they create an "educreation" on their own. Technology requirements: Laptops or tablets that have the Educreation application. www.educreation.com

5) Google Drive and Survey
Google Drive has potential for students working collaboratively on assessments, as well as for teachers to develop a student response system using student email addresses to send a survey or open-ended questions. Technology requirements: Students will need email addresses to set up in Google Drive. Google Drive works best for editing when operating on a laptop. docs.google.com

6) Rubistar
This website allows teachers to develop rubrics for a number of different products. There are pre-made rubrics or templates where teachers can develop rubrics on their own. Technology requirements: Laptop or desktop and printing capabilities www.rubistar.com

7) Quizlet
This flashcard site can help students self-assess as they learn material toward a goal. There are also assessment "games" that help automate facts for students. The teacher can develop the flashcard materials and allow students to practice on laptops or on their devices. Technology requirements: Device with internet capability or the Quizlet application. www.quizlet.com

8) Khan Academy
 The Khan Academy is a database of video tutorials that help students refresh and review items that they have learned. Many of the Khan videos have quick assessments for students to check understanding after they have practiced learning the video. This would be an excellent supplement to a lesson and would allow the teacher to check student understanding on specific skills. Technology Requirements: Laptop or device accessibility, student logins so that they can track their learning. www.khanacademy.org

9) Poll Everywhere
This tool allows for students to text responses to a poll for the teacher to receive feedback. It can be used as a student response system similar to Socrative so that the teacher can receive immediate data.Technology requirements: This one works best if students can send a text message for a response.
http://www.polleverywhere.com/k12-student-response-system

An additional area of improvement for technology practices in WCSD is in the availability of electronics on a daily basis. The ongoing purchase of devices is improving teacher and student access, but teachers still indicate a need for more technology. Tablets, phones, and laptops all have their respective places in the educational/assessment arena and in formative assessment, and these devices can provide timely feedback to both teacher and student. As more and more students obtain personal electronic devices, it is in the district's best interest to use these devices to improve instruction and assessment. A key first step in this process is the proactive development of an acceptable use policy that clearly outlines for students and families the capacity in which the use of devices is permissible while at school.

Schedule Redesign

The fact that all three schools of WCSD are on the same campus is a significant advantage when developing systems to support teachers and educational practices across a K-12 continuum. It is also an area where the district currently has much room for growth. Throughout the interviews, teachers expressed a desire to collaborate more with their colleagues. In light of the identified importance of collaboration in the extant research for implementation of identified recommendations, an increased effort in establishing and implementing support systems in WCSD could pay huge dividends in the form of student achievement, teacher satisfaction, and the seamless operation of the district. Furthermore, the commonly encountered theme of community could be leveraged to increase participation and involvement. It has been well documented that staff feel connected to the district, other teachers, and the students. This sense of family could help mobilize individuals to participate in modified schedules and systems. These innate desires to engage can further be encouraged by manipulating several components of the district.

In an effort to provide more time for collaboration, alignment (horizontal and vertical) of instruction, and the creation and evaluation of assessment, WCSD may benefit from creative modifications to the existing schedule. This could involve adjustments to school start times, period lengths, and lunch scheduling within contractual requirements. The intended outcomes of these changes could permit increased collaboration

between and amongst various content areas and time for team meetings. Through these modifications, the close proximity of all teachers inside the district should be considered to encourage planning and collaboration. The proximity of all staff at a central location is a unique factor in WCSD and should not be ignored.

Recognizing that time is limited, it is important that school and district leaders utilize time efficiently to maximize productivity and ensure that teachers remain engaged in the process. In *Data Wise,* Boudett et al. recommend four strategies: establish group norms, use protocols to structure conversations, adopt an improvement process, and intentionally plan for meetings. (2010). The articulation of norms and the use of an improvement process, such as the one outlined in the text and presented previously, aids in development of a shared orientation among staff towards change and development and provides for ownership in the process. The use of protocols and plans ensure that meetings are focused and guide teachers through "manageable tasks that may push the boundaries of their experience, but also give the group a powerful sense of accomplishment," (Boudett et al., 2010, p. 27).

Implementation

In order for the recommendations to be successful, a methodical implementation of formative assessment that allows for a gradual increase of responsibility among teachers and administrators can help to ensure that the new assessment practices take root and become a part of the culture and practice in WCSD. The following three year plan (Figure 4) can assist the administration in organizing the staff for collaborative work on formative assessment. This was developed with the particular context of WCSD in mind. Year one (2013-2014) changes can be easily implemented without purchasing new resources or changing existing schedules. Year two (2014-2015) introduces more formal structures for formative assessment, and recommendations in year three (2015-2016) are more politically challenging, so the three year timeline is provided to build capacity and buy-in for large-scale change.

Figure 4. WCSD Three Year Formative Assessment Implementation Plan

2013-2014 School Year	2014-2015 School Year	2015-2016 School Year
1. **Book Study:** • **Administration: *Data Wise* by Boudett et al.** • **Staff: *Classroom Assessments for Learning: Doing it Right-Using it Well* by Chappuis et al.** 2. **Support teachers in utilizing the Formative Assessment Self-Reflection Tool on at least two formative assessments throughout the year.**	1. Teachers utilize the Self-Reflection Tool in conjunction with PLCs to evaluate formative assessments being utilized in classrooms. 2. Evaluate assessment data to determine areas of weakness in each subject area.	1. Continue to follow the *Data Wise* cycle of inquiry to guide teacher discussions around using formative assessment to guide instruction.
1. Encourage teachers to experiment with various technology resources provided in the accompanying list.	1. Allow a technology committee to revamp the district technology policy to increase the availability of devices.	1. Revamp WCSD technology capabilities to match the technology plan from the previous year.
1. Utilize after school meeting times and professional development days to debrief regarding book study.	1. Develop a regular meeting/ PLC schedule to allow teachers to collaborate. 2. Provide opportunities for teachers to participate in PD Cooperatives.	1. **Adjust existing schedule to allow for vertical collaboration between schools.** • **Delayed Start** • **PD days** • **Early Dismissal** • **Sub Sharing**

*Bolded sections indicate areas of focus for each year

Section 7: Conclusion

Implementing best practices in formative assessment is a crucial component in ensuring student learning and growth. In light of potential benefits, focusing on improving formative assessment is an undertaking worth the effort. While implementation within even one classroom can be challenging, WCSD is in a unique position to work on implementation of these practices district wide. As a result of its size and deeply ingrained sense of community, WCSD can collectively strive to improve upon this important pedagogical skill.

Throughout the interviews, a sizable portion of WCSD's teachers indicated substantial knowledge about formative assessment, but this knowledge was not substantiated by practices described in the reflection protocol. These discrepancies allude to a need inside of WCSD for increased clarity and a focus on the development of specific formative assessment practices. Furthermore, certain factors, such as the need for applicable professional development, lack of convenient opportunities for collaboration, and access to facilitating technology, currently impede the implementation of formative assessment practices occurring inside of WCSD.

The Capstone team recommends that WCSD continue to evaluate and collaborate upon potential improvements to its formative assessment practices in an effort to provide the best possible educational opportunities to all students. The recommendations offered are but a starting place for further progress. Ultimately, success will come from a unified district commitment to implementing research-driven formative assessment practices in all classrooms.

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Appendices

Appendix 1. Teacher Interview Protocol

Teacher Interview Protocol
What are teachers currently using for formative assessment and how are they using it?
1) What does *formative assessment* mean to you?
2) How would you describe your approach to formative assessment? What does this look like?
3) How do you develop your assessments? How do they align with the state assessments? Do you think that these assessments are a reliable measure of student knowledge?
4) How do you decide what to assess? When to assess?
5) After you give your students an assessment, what do you do with the scores? How does it inform your instruction?
6) How do your assessments inform your grades?
Why are they using formative assessment?
1) Why do you use the formative assessments that you use?
2) Can you describe an example of formative assessment that is used in your class? Why do you think it is effective? What could be done to improve it?
3) Has the Common Core had any effect on your assessment practices?
4) Are there resources that you feel would allow you to be more effective in your assessment practice? For example, how does technology shape or influence the way you use assessments? Time? How does the nature of collaboration influence your work with assessments?
5) Talk to me a bit about small districts —like yours — and the use of assessments. Does the size of your district make a difference, have an effect on the way teachers use formative assessments? What about summative assessments?
6) Have you participated in professional development on formative assessment? What did you think about its use or value? Has it impacted your practice in any way? If so, can you provide an example or two?
7) Do you feel like there is an expectation, or an assumption, from school or district leadership to conduct formative assessment in a certain way? From the state?
What are best practices surrounding formative assessment?
1) What technology do you use to in regards to assessment? Administer? Review?
2) Do teachers work together at your school? How? Do you collaborate with others in the development or analysis of student assessment?
3) Do you share data from formative assessment with students? Do you feel comfortable speaking with students about their progress towards the Benchmark exams?
4) Any challenges? What else?

Appendix 2. Administrator Interview Protocol

Administrator Interview Protocol
What are teachers currently using for formative assessment?
1) What does *formative assessment* mean to you?
2) How often do teachers assess their students? Formally? Informally? What does this look like?
3) How do they develop they assessments? How do they align with the state assessments?
4) What challenges do you face in assessing students?
5) How do assessments inform grades?
How are they using formative assessment?
1) After students are assessed, what do teachers do with the scores?
2) How do teachers access student test data?
3) Do teacher share this data with students?
4) What do teachers do with the results of assessments?
Why are teachers using the formative assessments they use?
1) Why do teachers use the formative assessments that they use?
2) Are there resources that you feel would allow teachers to be more effective in their assessment practice? (Time, Technology, Collaboration?)
3) How do you see being in a small district as an advantage/disadvantage when it comes to formative assessment?
4) What professional development have you received or provided on formative assessment and how has it impacted your practice?
5) Why is formative assessment a priority in Westside?
What are best practices surrounding formative assessment?
1) What technology do teachers use to in regards to assessment? Administer? Review?
2) Do teachers collaborate with others in the development or analysis of student assessment? What does this look like? Vertical alignment? If not, why not
3) How do you see being in a small district as an advantage/disadvantage when it comes to formative assessment?
4) Are there resources that you feel would allow your schools to be more effective in assessment practices? (Time, Technology, Collaboration?)
5) What else do you feel could be done to improve formative assessment in your school district?

Appendix 3. WCSD Formative Assessment Reflection Protocol

Thank you for taking a few moments to answer the following questions about your use of formative assessment. Please think of an example of formative assessment that you have used this year and be as candid as possible to ensure that we are able to obtain an accurate picture of practices in Westside. All of your responses will be reported anonymously.What grade level do you teach? What subject?

What type of learning was this assessment designed to evaluate?
1. Knowledge: Factual information, procedural, and conceptual understanding
2. Reasoning: Processes students are to learn to do well within a range of subjects
3. Skill: A demonstration or physical skill-based performance
4. Product: Where the creation of a product is the focus of the learning target

What was the structure of this assessment?
1. Selected Response
2. Written response
3. Performance assessment
4. Personal Communication

Establishment of Learning Expectations

- What was the learning target(s) it was designed to assess and were these communicated in student-friendly language?
- How did you share your learning expectations with students prior to instruction?
- How were students informed of what they needed to do to be successful on this assessment?
- How did you determine what students knew prior to instruction?

Evidence of Student Learning

- How did you monitor growth toward expected standards?
- How did you develop this particular assessment? Did you work with others?
- How did you approach scoring this assessment? Did you work with others?
- Did you alter your instruction based on this assessment? How? Did you offer any other opportunities for students to demonstrate mastery on these standards?

Feedback to Improve Learning

- Following the assessment, how were the results shared with students? What form did the feedback take?
- Did all feedback look the same, or did different students receive different types of feedback?
- Once they received feedback, were students able to revise and resubmit their work?
- How did this assessment factor into your grades?

Student Follow Up

- Did students evaluate the quality of their own work? Did their peers? How?
- How did students use the feedback they were provided? Did they set goals based on their outcomes?
- How do students track their performance on this and other assessments? How do they contribute to making a plan for their own learning?

Appendix 4. Chappuis et al.'s Keys to Quality Classroom Assessment

Key 1: Purpose
- Who will use this information?
- How will they use it?
- What information, in what detail, is required?

Key 2: Clear Targets
- Are learning targets clear to teachers?
- What kinds of achivement are being assessed?
- Are these learning targets the focus of instruction?

Key 3: Sound Design
- Do assessment methods match learning targets?
- Does the sample represent learning appropriately?
- Are items, tasks, and scoring rubrics of high quality?
- Does the assessment control for bias?

Key 4: Effective Communication
- Can assessment results be used to guide instruction?
- Do formative assessments function as effective feedback?
- Is achievement tracked by learning target and reported by standard?
- Do grades communicate achievement accurately?

Key 5: Student Involvement
- Do assessment practices meet students' information needs?
- Are learning targets clear to students?
- Will the assessment yield information that students can use to self-assess and set goals?
- Are students tracking and communicating their evolving learning?

Appendix 5. Wylie et al.'s Characteristics of Formative Assessment

Characteristic #1: Intended outcomes of learning are clearly stated and shared.

•Clear Learning Expectations
•Clear Success Criteria

Characteristic #2: Formative assessment opportunities are designed to collect quality evidence that informs teaching and improves learning.

•Formative Assessment at the Launch of Learning
•Formative Assessment While Guiding Students Through Learning Experiences
•Formative Assessment While Checking for Understanding
•Assessment Quality

Characteristic #3: Formative feedback to improve learning is provided to each student

•Appropriate Feedback
•Feedback Use

Characteristic #4: Students are engaged in the assessment process and, to the extent possible, in planning their own next steps for learning.

•Student Self-Assessment
•Student Peer Assessment
•Follow-Through

Appendix 6. Target-Method Match (Chappuis et al., 2012)

	Selected Response	Written Response	Performance Assessment	Personal Communication
Knowledge	*Good* Can assess isolated elements of knowledge and some relationships among them.	*Strong* Can assess elements of knowledge and relationships among them.	*Partial* Can assess elements of knowledge and relationships among them in certain contexts.	*Strong* Can assess elements of knowledge and relationships among them
Reasoning	*Good* Can assess many but not all reasoning targets.	*Strong* Can assess all reasoning targets.	*Partial* Can assess reasoning targets in the context of certain tasks in certain contexts.	*Strong* Can assess all reasoning targets.
Skill	*Partial* Good match for some measure-ment targets; not a good match otherwise.	*Poor* Cannot assess skill level; can only assess prerequisite knowledge and reasoning	*Strong* Can observe and assess skills as they are being performed.	*Partial* Strong match for some oral communication proficiencies; not a good match otherwise.
Product	*Poor* Cannot assess the quality of a product, can only assess prerequisite knowledge and reasoning	*Poor* Cannot assess the quality of a product; can only assess prerequisite knowledge and reasoning.	*Strong* Can directly assess the attributes of quality of products.	*Poor* Cannot assess the quality of a product; can only assess prerequisite knowledge and reasoning

Appendix 7. WCSD Formative Assessment Self-Reflection Tool

Domain		Domain	Evaluation
Prior to Instruction	Do you have a clear learning target (linked to one content standard) and will it be presented in student-friendly language?	Yes / No	_
	Will you have a pre-assessment to evaluate what students know prior to instruction?	Yes / No	_
	Will students be informed of expectations and requirements prior to instruction? Will they be provided with a rubric or example of quality work?	Yes / No	
Assessment Tool	Was this assessment created collaboratively?	Yes / No	_
	Using the Target-Method Match on page 94 of Classroom Assessment for Student Learning: Doing it Right-Using it Well, does the type of learning sufficiently match the structure of the assessment?	Yes / No	
During Instruction	Will you monitor progress throughout instruction?	Yes / No	
	Will you adjust instruction to meet student needs?	Yes / No	
Following Assessment	Will this assessment be scored with others to ensure reliability of scores?	Yes / No	
	Will students be able to evaluate the quality of their own work or the work of their peers?	Yes / No	
	Will students have the opportunity to revise and resubmit their work?	Yes / No	
	Will feedback be individualized to meet unique student needs?	Yes / No	
	Will students use feedback to set goals for future learning?	Yes / No	
	Will students have a structure to track their learning on this and other standards and skills?	Yes / No	