Teachers' Perceived Understanding of Formative Assessment And How This Understanding Impacts Their Own Classroom Instruction

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TEACHERS’ PERCEIVED UNDERSTANDING OF FORMATIVE ASSESSMENT AND HOW THIS UNDERSTANDING IMPACTS THEIR OWN CLASSROOM INSTRUCTION

By
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B.S., Eastern Illinois University, 1996
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A Dissertation
Submitted in Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in the Field of Education

Department of Curriculum and Instruction
in the Graduate School
Southern Illinois University Carbondale
May 2017
DISSERTATION APPROVAL

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AND HOW THIS UNDERSTANDING IMPACTS THEIR OWN
CLASSROOM INSTRUCTION

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Approved by:

Dr. D. John McIntyre, Chair
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Graduate School
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April 4, 2017
AN ABSTRACT OF THE DISSERTATION OF

Melanie K. Brink, for the Doctor of Philosophy degree with a concentration in Curriculum and Instruction, presented April 4, 2017, at Southern Illinois University Carbondale.

TITLE: TEACHERS’ PERCEIVED UNDERSTANDING OF FORMATIVE ASSESSMENT AND HOW THIS UNDERSTANDING IMPACTS THEIR OWN CLASSROOM INSTRUCTION

MAJOR PROFESSOR: Dr. John McIntyre

The key purpose of this qualitative case study was to gain an understanding of classroom teachers’ perceptions of the process and impact of formative assessment on classroom instruction in a secondary school. The study was designed to obtain information about how teachers view formative assessment as part of their everyday planning and preparation, as well as sought to determine whether or not there was a correlation between teachers’ perceived understanding of formative assessment and their implementation of formative assessment in the classroom.

The three main research questions that guided this study were: 1) How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice? 2) How do teachers’ perceptions of their own understanding of formative assessment evolve over time? 3) What supports exist to help teachers implement formative assessment at the high school level? The case study focused on participants who were current 9-12 public school teachers representing mathematics, physical education, and foreign language.

To triangulate the data, multiple types of data were collected from the teachers. Pre- and post-surveys, unstructured interviews, focus groups, classroom observations with participant observation notes, and logs were used to collect the data. Data was then analyzed using analysis of the pre-surveys and compared with information gained from the other data sources. Data was
later analyzed using the post-survey and compared with the information from other data sources to determine individual teacher growth over time.

The results from the first research question indicated that teachers understood the accountability of both teachers and students in the assessment process, but required additional support in determining how student learning becomes the basis for use of formative assessment, types of different methods used, and overall teacher competencies about formative assessment.

The second research question indicated that growth occurred when professional supports were given in areas where weaknesses were identified. Initially, formative assessment was viewed by many as a means of compliance with the new teacher evaluation system. With continued professional development, teachers’ acceptance of formative assessment increased as their understanding of the process dually increased. In addition, as teachers began to see growth in student achievement, their overall acceptance of formative assessment also increased.

The third and final research question indicated that supports must not only be global in nature, but must also be focused on the individual. When teachers know where they are and know the target of where they want or need to be, instructional growth does occur. Supports for teacher instructional practice will vary based on identified needs, understanding of formative assessment, and the type of supports available.

Recommendations for follow-up study include the use of additional focus groups, extending the formative assessment survey to include lengthening the time of the study, and a change in setting to avoid certain nuances that can occur with studying the same school district. Additionally, research should be completed on the long-term effects of personalized professional development and whether teachers continue to use formative assessment practices as they gain more extensive experience. Since this particular school was undergoing a complete system
change while the study was being completed, it would be dually important to investigate a school that was not in the midst of such a change. With all the additional supports available to the teachers in this study, it is important to see if a teacher’s perceived understanding of formative assessment would continue to translate into instructional practice if whole school and individual supports were not as prevalent.
DEDICATIONS

I would like to acknowledge and express my sincerest gratitude to all those who supported me in completing this doctoral study. Without each one of you, this endeavor would not have been possible.

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CHAPTER I
INTRODUCTION

In 2014-2015, a mid-sized high school in Southern Illinois adopted the Charlotte Danielson Framework for Teaching (Danielson, 2007). This framework was adopted to assist Lincoln High School as it worked to build its capacity of system supports for teacher practice and assessment. In addition, it offered best practice for both novice and experienced teachers and allowed this high school the flexibility to determine how this practice looked within their own school. “A framework for professional practice can be used for a wide range of purposes, from meeting novices’ needs to enhancing veterans’ skills” (Danielson, 2007, p. 2). This framework would become the backbone or overall roadmap for what is best practice, and the teachers would collaborate together, with the support of the administration, to determine what it would look like within the classroom.

Within the first few months of the adoption process, it became apparent that the biggest stumbling block teachers faced was how to use formative assessment in both their planning and preparation and in the delivery of instruction. Teachers at this particular high school stated they had been exposed to summative assessment throughout their entire teaching profession, but formative assessment was an area in which most teachers were unfamiliar. It was common practice for teachers to give a quiz for a grade to check for understanding (summative) versus checking for understanding before the grade which was formative.

Historically, high school teacher preparation programs focus on content versus pedagogical practice. In a study by Wong, Chong, Choy, Wong, & Goh (2008), the perceived pedagogical knowledge and skill levels of primary versus secondary student teachers were significantly higher for primary versus secondary student teachers. They recommended that
preservice programs needed to be aware of the differing methods of instructional delivery and to take this into account when planning for pre-service classes for both primary and secondary teachers. When asked by this researcher, the participants in the case study believed the basis of their preservice programming was focused on content and on building a strong foundation in the core subject area. Teaching strategies were somewhat embedded in a few of the classes, but the largest majority of classes focused on the specific content area. With the focus being on content, the three teachers in this case study believed they were more prepared in the area of content versus pedagogical practice. This supports the statement mentioned in the abovementioned paragraph of why teachers at this particular high school were faced with the stumbling block of how to use formative assessment in both their planning and preparation, and then delivery of instruction.

A quantitative study done in 2008 comparing perceptions of knowledge and skills of primary and secondary teachers stated “To solidify the differences and focus on pedagogical practices in preservice programs, there was an increase in the levels of pedagogical knowledge and skills perceived by Primary student teachers were significantly greater than that shown by the Secondary student teachers” (Wong, et al., 2008, p. 80). How can high schools expect teachers to implement formative assessment practice when they have not been given full opportunity to learn it? Studies show that new teachers often leave the teaching profession for several reasons, including lack of understanding of subject material, lack of classroom management, lack of support from peers and leaders within the building, lack of overall preparation, and general feeling of being isolated (Moore & Chae, 2007; Nicholson & Bond, 2003). Secondary teachers need more opportunities to engage with formative assessment and to develop a better understanding of pedagogy before they can implement it back into their practice.
It can easily become frustrating to a secondary teacher, and it clearly would throughout this implementation process, as most from this high school had little to no experience with formative assessment.

At the beginning of the first year of implementation, it became apparent that the school needed to create and adopt a formative assessment process that represented the high school as a whole and to also collect current research in order to support school-wide, administrative decisions. Using research, assistance from two local professors, and input from our teachers, together we would create a school-wide definition that represented what formative assessment meant to us. Even with on-going assistance, a schoolwide culture shift needed to take place. This culture shift was one that would take the course of two years, and the overall morale and mood within the school would slowly increase as the teachers understanding of formative assessment grew. This research details the journey of three teachers who volunteered to be a part of this study as they proceeded through the formative assessment process.

**Background of Testing in the United States**

“Education as we know it today was not created to fulfill the demands of a 21st century society. Our educational system was never designed to deliver the kind of results we now need to equip students for today’s world- and tomorrow’s. The system was originally created for a very different world. To respond appropriately, we need to rethink and redesign” (Wagner & Kegan, 2006, p. 1).

In 1983, a national government appointed commission was charged with investigating the state of the nation’s educational system. The commission found that, “…the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people.” (A Nation At Risk, 1983). After this report, education
became a critical focus of the national government, as it highlighted the strengths and weaknesses of the educational system and called for reform to remedy the weaknesses.

Since education is not listed as a responsibility of the federal government under the United States Constitution, education has typically been reserved as a state right. Prior to 1994, each state was able to plan, prepare, deliver, and assess students as each state saw fit. The federal government then passed legislation called Improving America’s Schools Act or IASA. The legislation tied federal dollars to schools across America. If a state decided to accept these federal dollars, then the state, in turn, would agree to assess students in various grades. This was the first time that the federal government tied money to assessment.

The next critical legislation that affected public school education was signed into law by President George W. Bush in January 2002 and was known as No Child Left Behind or NCLB. Federal monies were further tied to assessment by requiring schools to assess all students, whether or not these students were tied to the allocation of the Title I monies. This law became the cornerstone of summative assessment and its use in the public school system. At the heart of this legislation was the notion that no child in America should be left behind in their educational programming, and it placed multiple mandates on schools with regarding assessment accountability and student progress. The law also asked schools to adhere to the following guidelines as it pertained to school assessment:

1. By the 2005-2006 school year, all students in grades 3-8 will be tested annually in the areas of reading and mathematics.
2. By the 2007-2008 school year, students must be tested in elementary, middle school, and high school in the area of science. The State of Illinois chose to test science in grades 4 and 8.
3. By the 2013-2014 school year, all students were to be in the proficient level on the state tests.

4. Schools were required to meet adequate yearly progress goals for both the overall student population and specified small group populations determined by the number of students in each subgroup. In addition, if a school did not make adequate yearly progress two years in a row, students would be offered school choice to attend a different school. After three years, a school would also be required to offer private tutoring to students. Monies from this service, could come from the allotted Title I funds.

The NCLB legislation had great impact on the way teachers viewed assessment. Assessment was viewed as a means to an end. It was the summative response to an input-output society. Public perception of assessment was that schools were only as good as the scores they were eliciting. A main goal of state testing was to see if students were learning what they were supposed to learn, both as individuals and as an entire school. Accountability on student learning was now a priority for schools (NCLB/Stronger Accountability, 2004). A heightened sense of urgency to make all students pass the test became a reality facing teachers and administrators across the nation.

In 2009, President Barack Obama charged the nation to raise the bar in education by creating rigorous standards and high quality assessment, creating data systems that tracked student data and achievement, and created a teacher evaluation program that effectively hired and maintained high quality teachers. This legislation was known as Race to the Top. At that time, Secretary of Education, Arne Duncan, made a press release which tied together the above-mentioned concepts, while in turn, focused on the importance of student achievement and teacher practice. He stated, “We also have to fix our method of evaluating teachers, which is
basically broken…How can you possibly talk about teacher quality without factoring in student achievement?” (Duncan, 2009, para. 30). This call to the nation tied federal dollars to states that adhered to the federal government’s idea of quality education. Again, through compliance, a state had the potential to access to millions of dollars to further education within the state. Little by little, the federal government has inched its way into the state’s right to govern education.

In response to federal Race to the Top legislation, schools in Illinois had to navigate the new PERA or Performance Evaluation Reform Act of 2010, which changed the way teachers and principals were evaluated by combining professional practice and student growth measures to determine a final summative rating for both categories of educators. Professional practice was measured by standards of effective teaching, required evaluators to be trained, provided for timely feedback, required evidence collection, and evaluators had to conduct observations.

**Statement of the Problem**

To quote a line from the song *Do-Re-Mi*, which comes from my favorite Rodgers and Hammerstein’s movie, *The Sound of Music*, “Let’s start at the very beginning. A very good place to start.” (1965). I want to take you back to where and how the journey began for three teachers at this rural high school. I was hired to be the Curriculum Director in July 2014 and charged with the responsibility of introducing and assisting the school with implementing the Charlotte Danielson Framework for Teaching. Thus, in August 2014, a new evaluation system was introduced to the teachers at this high school. The teachers participated in a one-and-a-half day training regarding each of the four domains including: planning and preparation, classroom environment, instruction, and professional responsibilities. Embedded in this framework were varying strategies, assessment approaches, and levels of expectations for teacher achievement.
One of the biggest factors that emerged from this process was that teachers were unfamiliar with what formative assessment was and what this practice looked like in a high school setting.

As a new leader in the school, I was working to build collaborative relationships with all the teachers, while on the other hand, trying to help a school navigate new uncharted instructional territory. It was at this point (late October 2014), that I asked the Principal and Superintendent if I could invite two local professors, Drs. Smith and Cole, from a neighboring university to be a part of our journey. Drs. Smith and Cole offered a different perspective—one that was collegial and one from years of experience watching their own children and community walk in and out of these high school doors. Asking these two particular professors did not come without much thought and consideration. It took the right professors to gain entry into this building. They would have had to already have a relationship with the teachers and a mutual respect in place. Since the research was beginning quickly, I knew the “right people” were imperative for this qualitative study to work. Drs. Smith and Cole fit the descriptions. As stated previously, I was building my own sense of rapport and collaborative-style relationships, so I needed to have the appropriate professors who already had established a sense of trust with the teachers.

The professors and I discussed the importance of gaining access and permission from the school, as well as, acceptance from the staff. We all sat in one room and brainstormed on how Drs. Smith and Cole could assist the journey and support the process, while allowing me to build trust within our teachers while professors grew with us. It was decided the best way to gain entry was to invite both professors to a department chair meeting, where the principal and I introduced the professors and allowed the chairs to ask questions. This department chair meeting
did not happen until January 2015, but both professors continued to be a resource to me as our school continued the journey towards implementation of formative assessment.

On this formative journey, it was clear that the idea of making change within a school did not come without a price. Change was difficult for all parties involved--from the administration to the teachers. All educators in the school were finding themselves smashed between a rock and a hard place. Some teachers wanted to change, some teachers were unwilling to do so, and some teachers did not know where to begin. “Teacher preparation is a continuous journey” (Wong et al., 2008, p. 92), and in some cases, many teachers had years of experience working against them and the notion of this too will pass. With so many different initiatives moving in and out of education, it could often be difficult to be open to different ideas, because presumably these ideas would go away just as the ones before them. This notion often swirled through the halls as the school worked to embed formative assessment into its everyday instructional process. To quote Mr. Zion (J. Zion, personal communication, December 10, 2015), a 20 plus year mathematics teacher, “Experience, coupled with years of watching failed programs being initiated across the state and even the nation, played into mine as well as other teachers skepticism and unwillingness to accept new strategies and ideas into their practice. Many other teachers felt, this, too, shall pass.” In addition, some were hoping that just the appearance of compliance to formative assessment would be enough. To quote Ms. Benson, “I have taught for a long time. I know how to make it look like I was doing it (A. Benson, personal communication, September, 2015). As teachers worked through answering the question “What is formative assessment?,” the administration was also having the same discussions and working to figure out how they could better support a changing school instructional culture.
In 2001, Michael Fullan described something known as the “implementation dip” which details the decline in overall performance that often occurs when new innovations, in this case formative assessment processes, are introduced and require staff to utilize new knowledge and skills. Just as Mr. Zion was concerned that “this, too, shall pass,” Fullan (2001) cautioned leaders to be concerned with this mindset. A teacher’s previous experience with the success or failure of a program could have positive or negative effects on the success of a formative assessment culture shift for Lincoln High School. The administration knew how important it was to support and nurture the teachers’ questions and concerns during this instructional shift.

This took us to a new semester with the same question about formative assessment. In January 2015, Drs. Smith and Cole were formally introduced to the department chairs. Since most already knew both professors, the primary goal of this meeting was to ensure that all teachers felt comfortable with them being a part of our journey and understood the professors’ role during this process. Drs. Smith and Cole wanted to be viewed as learners, as well as, resources when needed or requested. Both professors were not in the building to lead the teachers but to assist and learn with them. Having them at the department chair meeting was used as the “entry” in and the assurance to all that their presence was merely one of a parallel learner. It was important for every teacher to know the professors and the purpose of their visits, so the relationships between Drs. Cole and Smith could continue to flourish. Since information is shared through the department chairs to their departments, news of the visitors would quickly spread. It would not take long until Drs. Smith and Cole became a staple around Lincoln High School.

It was at this point, everyone--not just the teachers--but the administration realized the uncertainty and unfamiliarity with the vocabulary used within the framework and teaching
practice was different between groups within the building as a whole. Words like formative, outcomes, objectives, and assessment all tied to this unfamiliar language that confused teachers as to what exactly they were supposed to do when assessing students. The urgency of gaining buy-in, and giving teachers ownership throughout the formative culture shift was glaring. Working as a team to develop school-wide language was an important piece of building a sustainable formative assessment culture within the school. “Making change work requires the energy, ideas, commitment, and ownership of all those implementing the improvements” (Fullan, Cuttress, & Kilcher, 2005, p. 55). Together, the teachers and administrators had to develop a common language so that all could have sound instructional discussions based on a foundational understanding of the vocabulary being used. One would not think that something so basic as vocabulary would cause so much discourse, but it certainly did. Think about it, how can two parties truly have a conversation about something if they are operating under two different frameworks?

As the teachers and administrators continued to dive further into the process of evaluation, the questions about domain one, which was planning and practice, continued to emerge. The evaluators, which were also the administrators, began having goal-setting conferences with teachers. These conferences were designed so teachers could set goals for them to work toward during their evaluation cycle. The cycle could fluctuate between one or two years depending on if a teacher was tenured or non-tenured and/or had a previous rating of proficient, excellent, needs improvement, or unsatisfactory on the last summative evaluation. The conference is supposed to be a time of reflection and nonthreatening conversations about past progress and future goals. It is truly at this moment that many teachers began realizing, after
reading the rubric, their understanding of formative assessment was vague and needed clarification (Appendix A).

The first few years of implementing new assessment procedures, such as moving towards a formative assessment system, can be difficult. The demands and questions that come from the new process can be overwhelming for not only the teacher but the administrator. These demands and questions can prompt novice, intermediate, and experienced teachers to lose faith in the process and decrease the value of the proposed change. Teachers have to see that their leadership not only supports the change, but also believes in it enough to be a part of the change.

“…Leadership supporting an innovation must be consistent with the order of magnitude of change represented by that innovation” (Marzano, Waters, & McNulty, 2005, p. 66). Not only was this high school transitioning to a new teacher evaluation system, they were also asking teachers to assess student learning at a different level. It is difficult to separate the teacher evaluation system or Danielson Framework for Teaching from the implementation of formative assessment because one occurred as a response to the other. Teachers began seeing the urgency for implementing formative assessment because of the requirements laid out within the evaluation rubric. With formative assessment, focus was taken from the overall grade, to the individual learning of each student that walked through the doors. Teachers were being asked to check for understanding before, during, and after instruction to ensure students were aware of their strengths and weaknesses.

Teachers at this high school were accustomed to teaching, testing, and moving on with instruction. Systematic use and understanding of the power of student information was absent in everyday practice. Improving upon measures for the systematic use of student data has been a hot topic in education circles and reform policies (Herman, Wardrip, Hall, & Chimino, 2012). In
this high school, most teachers used data as documentation of post learning validation whether or not a student learned the proposed material. It was not until the new teacher evaluation process became required did teachers see that assessment is much more than capturing a single point in time. Research continues to increase around the idea that there must be a relationship or buy-in between the teachers’ belief in an approach and the actual practice itself (Fang, 1996). The research also supports the idea that belief in a practice is directly correlated with the way one was taught themselves. (Fang, 1996; Yoo, 2005) In other words, the teacher often instructs how they were instructed and their practice often reflects the practice of their former teachers or education. This high school was facing the daunting question of, “How do you change the culture of assessment while ensuring teacher perception of the formative process stays positive?”

The key purpose of this qualitative case study was to gain an understanding of classroom teachers’ perceptions of the process and impact of formative assessment on classroom instruction in a secondary school. The study was designed to obtain information about how teachers view formative assessment as part of their everyday planning and preparation, as well as sought to determine whether or not there was a correlation between teachers’ perceived understanding of formative assessment and their implementation of formative assessment in the classroom. The study also sought to uncover whether a teacher’s perceived understanding of formative assessment will change over time when appropriate supports are put in place tailored to individual teacher’s strengths and weaknesses.

The main question, therefore, to which answers were sought in this study, was whether teachers’ perceived understanding of formative assessment impacts their own classroom instruction.
Prior to the new evaluation system, assessment was used mainly as a means to measure student understanding after the curriculum content was covered. Assessment was viewed as a test to measure the output of one’s learning. After the inception of the Framework for Teaching (Danielson, 2007), assessment was viewed as a circular process where assessment is not the means to just measure output, but also used to measure where one’s understanding is prior to and during instruction.

This question gave rise to others. For instance, do teachers effectively use formative assessment as a tool to gauge student progress, or is it used as a formality because grades have to be put in the grade book? Do teachers track individual student progress, and revisit the data on an on-going basis to determine progress? Do teachers adjust instruction based on assessment results? Do teachers hold favorable attitudes towards formative assessment? Does regular use of formative assessment effect student attitude? How do teachers view the assessment process? Which subjects do teachers mostly use assessment to drive instruction?

Although much of the literature on the role of formative assessment is theoretical, and the practical application of theory has not yet reached the point where there is agreement on methodology, an attempt was made to formulate a general conceptual framework for teacher use of formative assessment based on the overall teacher perception of the formative process. The basis for such a framework was due in part to underlying factors that caused teachers to change the way assessment is viewed as part of an on-going assessment process.

**Research Questions**

The following questions provided the framework for this study:

1) How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice?
2) How do teachers’ perceptions of their own understanding of formative assessment evolve over time?

3) What supports exist to help teachers implement formative assessment at the high school level?

**Purpose of the Study**

In order to investigate teacher perceptions of formative assessment as part of their instructional practice, I conducted a naturalistic inquiry of three high school teachers who represented novice, intermediate, and experienced staff in the school. The purpose of the research was to investigate teacher perceptions of formative assessment and the phenomenon that supported their perceptions resulting in possible barriers to implementation. Pre-and Post-surveys were administered, observations by two local professors were conducted during the school-day, unstructured interviews were conducted inside the school setting in a private office, logs were maintained in addition to the use of document analysis. The length of this study was four semesters, fall 2014 through spring 2016. Participants volunteered and then were intentionally selected based upon their level of experience, degree of comfort with formative assessment, and type of course instructed.

It is important in this study to identify the variables that teachers have no control over, such as department goals and school mandates that must be followed, a developing curricular roadmap with goals and objectives, and to focus on the areas over which teachers do have control. Thus the circular approach to assessment is linked to the changes in Illinois law that affect how assessment is used in the classroom. The position taken in this study was that research was plentiful regarding formative assessment in education, but little research is available on how teachers’ perceived understanding of formative assessment affect their
instructional practice. In addition, with appropriate whole-school and individualized supports, deeper understanding evolves over time and translates into observable instructional practice. While it is not denied that some teachers did use formative assessment before beginning this study, all three teachers were at different levels of understanding.

**Significance of the Study**

A great deal of literature is available on the role of formative assessment in education, but little research is available on a teacher’s perception of their own understanding of formative assessment and how it affects their instructional practice. Understanding a teacher’s perceived comfortability with formative assessment as part of their instructional practice will shed insight on the impact formative assessment has on one’s daily instructional practice. Assessment has always been used in education. One can ask their grandparents if they had tests in school and the answer will emphatically be “yes”. Education is not the only place where assessment is used as it is also used to determine if one is able to obtain a driver’s license, obtain various levels of employee status, determines satisfaction in one’s job, and to initially gain employment within a company. Assessment is not a new concept, just one whose role has changed over time due to research in the field and mandates in education.

**Assumptions and Limitations**

This study makes the following assumptions:

1. All participants are certified secondary teachers in the State of Illinois with at least five years of teaching experience.

2. The participants represent three levels of experience. Ms. Benson, the Math teacher, has 30 years experience teaching math. All of her years of experience have been acquired at this high school. She has a Master’s degree in Mathematics and also serves as
department chair of her department. Mr. Aaron, the Foreign Language teacher, has 12 years experience and a Master’s in Education Leadership. Before becoming a teacher, he was in the workforce and later went back to school and became a teacher as a second career. Mr. Aaron serves as a department chair for his department. Mr. Michael, the Physical Education teacher, had nine years experience. He recently completed his Master’s degree in Education Leadership. All three teachers have varying levels of experience, background, and content knowledge.

This study has the following limitations:

1. The sample is limited to intermediate and experienced teachers.
2. The sample is limited to a rural area located in the Midwest.
3. The sample is limited to teachers with high school teaching experience.
4. The responses of the participants might be influenced by their personal and professional experiences and therefore; might not generalize to all intermediate and high school teachers.

Definitions

This study concerned itself with perceptions of three teachers from a rural, public high school. Listed below are definitions of the terms used in this study.

**Rural:** As categorized by the National Center for Education Statistics or NCES (Rural education in America, 2006)--a school that lies within no more than 5 miles of an urbanized area.

According to the NCES, an urbanized area includes areas that have populations at or above 50,000 people (Search for Schools, 2009).

**Assessment:** “the process of collecting information about the characteristics of persons or objects by measuring them” (Hosp & Ardoin, 2008, p. 69).
**Perceptions and Perceived:** The self-reported opinions and understandings held by teachers about formative assessment.

**On-going:** A process or procedure that is continuous in nature and not stagnant.

*The following two terms are often used simultaneously by educators, so the terms will be defined to eliminate confusion during the study:* 

**Curriculum:** The planning and preparation that teachers use to instruct students, including the resources and materials necessary to further one’s learning. In addition, curriculum includes the sequence of outcomes or curricular aims set forth by a school district to help in facilitating student performance (Appendix B).

**Instruction:** The overall delivery of the curriculum. It includes the activities and practices used by teachers to help achieve the outcomes or curricular aims (Appendix B).

**Growth:** The change in behavior or feeling from one point in time to another. The study will focus on the growth of each participant as they move along their own continuum of understanding.

**Roadmap:** Curriculum roadmaps are instructional plans developed by teachers within the school that include timelines (including formative and summative assessments), course goals, and unit objectives aligned for the semester or year.

**Assessment Process:** A planned method for gathering and analyzing evidence to evaluate programming, plan for instruction, and/or measure one’s mastery of learning (Appendix B).

**Assessment Literacy:** The process of gathering summative and formative information about student learning to help make informed classroom decisions.

**Formative Assessment** - *For the purpose of school-wide consistency, the school district used created their own working definition of formative assessment.* According to this school district,
formative assessment is “an on-going process that collects evidence of student learning from informal and formal methods, and provides information to both the teacher and the student. It involves two-way communication between the student and teacher, and encourages modification of teacher practice to meet the needs of the student. The student uses the information to self-assess and utilize available tools to improve” (Appendix C).

**Summative Assessment**: The overall assessment of one’s learning in order to measure the quality of instruction or mastery of one’s learning.

**Performance Evaluation Reform Act or PERA**: Signed into law in Illinois in January 2010. This law requires schools to adopt a four tiered rating for teachers and requires schools to use a researched-based instrument of evaluation.

**Summary**

Focus on formative assessment must move beyond a buzz word or a simple school mandate. It should become an integral focus of one’s curricular planning and inform both instruction and student learning. I often use this when I talk with teachers about the importance of formative assessment, “You don’t know what you don’t know, but once you know, the power lies within you to make a change.” It is important to give all students the tools to assess where they are and help them acknowledge their own strengths and weaknesses. This will empower them to make a plan to improve. “Formative assessments contributed to students’ learning both by influencing the learning process (how they learn) and by affecting the learning outcome (what they learn) (Weurlander, Soderberg, Scheja, Hult, & Wernerson, 2012, p. 753). This study attempted to identify teachers’ perceptions of their own understanding of formative assessment as it developed as part of the instructional practice of Lincoln High School.
CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature is organized around specific areas of formative assessment. This study will focus on three teacher’s perceptions and the impact of their understanding of formative assessment on their instructional practice. The review begins with an overview of current and past research in the field. Since Lincoln High School was undergoing an entire systems change as part of the shift to the Charlotte Danielson Framework, the first part of Chapter II will be devoted to a review of literature on the connection between a complete system change within a school and the implementation of formative assessment. The review of literature then continues with a brief look at the role of assessment in the field of education. It then moves on to exploring how the teacher’s view of formative assessment affects implementation. Following the examination of the effects, I approached connecting how teacher perception impacts their use of formative assessment in their daily practice. No comprehensive studies were found that fully explore the connection between effective implementation of formative assessment and a teacher’s perceived understanding of formative assessment and how it affects their instructional practice.

Systems Change

According to Cuban (1988), “Reforms may change schools but schools also change reforms” (p. 466). This quote epitomizes exactly what we did not want to happen within this school. The administration’s goal was to embrace the new reform set forth in the mandate of teacher evaluation, while keeping in mind that the school would be undergoing major systems change during this process. A complete system change, commonly known as second order change, takes time and patience from all involved--from the leadership to the teachers. Since this
reform came at a time when teachers were hesitant about the new evaluation system and what this new accountability would look like, there were many factors that played into their acceptance or, lack thereof, towards their attitudes to accept the new practice of formative assessment being discussed within a school.

One of the barriers Lincoln High School had to overcome is the ability for many to recognize the need for this change. According to Greenberg and Baron (2000) and later cited by Zimmerman (2006), unless teachers see the need for change in their school, their interest for maintaining status quo will more than likely take precedence over their desire to accept the new change. Further, many teachers have seen past efforts of change fail and are left hesitant to accept new ideas. These new ideas can be seen as “this too shall pass moments” leaving some hoping that if they simply appear to comply, the initiative will just go away. A prime example is Mr. Zion (J. Zion, personal communication, December 10, 2015), from Chapter I when he stated, “Experience, coupled with years of watching failed programs being initiated across the state and even the nation, played into mine as well as other teachers skepticism and unwillingness to accept new strategies and ideas into their practice. Many other teachers felt, this, too, shall pass.”

The school itself was undergoing a complete overhaul as to what good instruction looks like at Lincoln High School. Beginning with the adoption of Charlotte Danielson’s Framework for Teaching, this school and all faculty would work together to understand and further breakdown the components within the framework. Further, because the largest questions from the faculty about the framework were regarding formative assessment, the focus of this systems change would be answering the questions and providing opportunities for teachers to collaborate and grow in this area. According to Zimmerman (2006), it is important to provide strong
opportunities for teachers to work together and collaborate while developing a supportive culture for change.

According to Fullan (2001), teachers often undergo an implementation dip during a systems change which is a decline in their performance or confidence as they move towards acquiring new skills or understandings. To further support change, leaders must recognize that change is difficult on teachers and may pose stressors on their confidence and, in turn, decrease their desire to initially try new instructional strategies. It is important and critical to the change process that principals are ready to offer the necessary feedback and reassurance to teachers (Zimmerman, 2006). Again, as formative assessment was new and a concept that most teachers had little familiarity with, this change had to be supported both school-wide and individually. The administration recognized that for formative assessment to be embraced, it must be understood, and professional development be offered throughout the school year.

**Importance of Assessment**

The use of assessment results lie at the center of a teacher’s practice and should be consistently reviewed to ensure students are making progress in their learning. Many researchers agree that formative assessment is a vital aspect of a child’s learning process, and should be used to plan and inform instruction (Shephard, 2000, Whitworth, Maeng, & Bell, 2013, Parsons, Dodman, & Burrowbridge, 2013& Filsecker & Kerress, 2012). A main objective of formative assessment is to assess and promote student learning throughout the entire learning cycle. In summative assessment, assessment is viewed as a means to an end or determines if students have met the set criteria. Black, Harrison, Lee, Marshall, and Wiliam, (2004) stated that summative assessment addresses accountability, ranking, and/or certifying competence. The research goes on to validate that both summative and formative assessment are important for understanding the
academic and social progress of a child. According to Stiggins (2014), regardless of which type of assessment one uses, the assessment must yield appropriate evidence regarding student attainment of the set goal or objective. Further, it should be noted that formative assessment, if utilized consistently, leads to individual growth and aids in informing individualized instruction (Filsecker, M., et. al (2012); Hosp, J. (2012); Popham, J. (2008)). By using formative information, teachers can identify individual learning needs and tailor instruction to meet these needs (Black & Wiliam, 2007). Gaining insight into a teacher’s overall understanding of assessment literacy and how this instructional practice carries out into their everyday practice supports Stiggins’ (2014) idea that teaching and assessment have been viewed as two separate entities. Because of this, teachers have not been given the opportunity to develop the assessment skills needed to enhance student learning. The research gained in the study is important for furthering the understanding of teacher’s perspectives about why formative assessment should be used in planning for curriculum and instruction.

For the purpose of this study, assessment is categorized into two categories: summative and formative. Assessment can be used to appraise one’s overall achievement or support learning along the way. The focus of assessment in this study is through a constructivist lens. According to this framework, knowledge is neither passively received nor disconnected from the big ideas or essential learnings. Shephard (2009) stated, “Constructivist learning theory, invoked throughout this volume, is at the center of these important changes and has the most direct implications for changes in teaching and assessment” (p. 2). Assessment should emphasize the connection between learning and the instruction taking place. According to Stiggins (1999), the quality of instruction in any classroom turns on the quality of the assessments. Often, curricular decisions are viewed as quality over quantity and depth over breadth. Shephard (2000) went on
to state that often the correlation between instruction and learning is missing and the two concepts are viewed separately. Through this study, formative assessment is a key piece of insight into student understanding. Setting clear learning targets allows a student a means to set goals and to achieve deeper understanding. Assessment is an on-going process, not viewed as a one-time shot. In addition, it is embedded as part of one’s instruction (Shephard, 2000; Hosp, 2012; Hosp & Ardoin, 2008).

Since assessment should be viewed as an on-going process, students should be given more than one opportunity to show what they know. Assessment should be about collecting and interpreting evidence about student progress to inform decisions about learning (Moss, 2013). In addition, formative assessment should be concerned with “providing teachers and/or students feedback information, which they need to interpret when answering the three feedback questions: Where am I going?, How am I going to get there? and Where to next?” (Hattie, 2003, p. 2). With the appropriate use of assessment, learning becomes a continuous loop of knowledge and processing. Shephard (2000) stated, and was later cited by Hattie (2003), that the successful teacher “is able to ask the right questions at the right time, anticipate conceptual pitfalls, and have at the ready a repertoire of tasks that will help students take the next steps requires deep knowledge of subject matter” (p.12).

However, little evidence has been collected to prove that the simple use of assessment furthers student learning throughout the overall learning process. Black and William (1998) reviewed 578 publications about the role of assessment in the learning process and came to the conclusion that teachers do not consistently engage in purposeful discussions regarding assessment questions and further reflect on these results. Simply using assessment does not further learning, but actually taking the results and empowering students to use these results can
make all the difference. Looking at the research from Black and William (1998), I could also add that there are more outliers in the assessment process then just the test itself. In addition, teachers must understand formative assessment as part of the instructional process and further buy-in to the formative assessment process for it to be used as an effective instructional tool.

According to Weurlander et al. (2012), formative assessment can act as an external motivator for students. He stated that when students felt pressure to study for a quiz or test they often benefited from having a deadline or some other stressor to motivate them to study, especially at the beginning of a course. He also found that when students had several formative assessments during a course, they seemed to study more consistently. This research suggests that students having access to information about their learning can reduce test anxiety because students are aware of what they need to know to be successful for the summative assessment. Being prepared for the big day (summative), can ease one’s stresses and lower worries about what they might not know. Assessment results should not be a secret. A student cannot be asked to hit a target if they do not know what the target is. As previously stated, assessment should be about the learner (Filsecker & Kerress, 2012), and their on-going results should belong to them. If they own it, the more effective the assessment results will be promoting student learning and achievement. Since the learner’s needs are at the heart of the assessment process, the learner will have the ability to take action for their own learning based on their own personal evidence of learning (Black & Wiliam, 1998).

Use of formative assessment dates back to as early as 1967 when Scriven stated that formative assessment should be used to target program development. He (1967) believed that formative assessment might have a role in the on-going improvement of the curriculum and that formative assessment results help to identify holes in programming so teachers know where and
how to add or detract from curricula. It was then that Scriven introduced the words ‘formative’ and ‘summative’ with reference to curriculum evaluation. In 1969, Benjamin Bloom introduced formative assessment as a means to provide feedback and correctives to students at each stage of the teaching-learning process. Within two years of its inception, formative assessment began to make its mark on education.

Fast forward to 1998, Black and Wiliam stated that assessment results are used to adapt teaching and to then meet student needs. In terms of assessment, learning should be looked at as prospective versus retrospective. Teachers should plan the right questions, and be prepared to anticipate different levels of student needs when preparing for a lesson. In addition, Shephard (2000) believed that teachers should be prepared with a varying toolbox of approaches to fill the gaps and create next steps. Assessment should be used to determine skill level and to later plan for individual instruction. This includes identifying not only strengths but also skill deficits (Hosp & Ardoin, 2008). Experts have yet to agree on the definition of formative assessment, but they do agree that it is used to inform practice. Popham (2014) referred to formative assessment as a “process, not a test” (p. 290) and supported Hosp et al. (2008) by stating that assessment should be about collecting information from a variety of sources and should be on-going in nature.

Whether defining formative assessment in terms of instruction or individual learning, teachers and students should use it to inform activities and the overall learning process. Black and Wiliam (2001) defined formative assessment as “those activities undertaken by teachers, and by their students in assessing themselves, which provide information to modify the teaching and learning activities” (p. 2). It is important to note that an assessment is formative when it is used to adapt or change a teaching curriculum to meet the needs of the students, and allows for
students to make decisions for themselves that, in turn, meet their learning targets. Having access to student information allows for continuous self-regulated learning. Nicol and Macfarlane (2006) stated, “Self-regulated learning is an active constructive process whereby learners set goals for their learning and monitor, regulate, and control their cognition, motivation, and behavior...” (p. 204). To self-regulate, one must know and understand where they are and what they can do to improve.

Research supports the use of formative assessment and suggests that appropriate use of it can positively influence how students learn and achieve. Multiple reviews of the literature confirm that formative assessment can impact instruction when delivered using feedback, questioning, peer to peer assessment, and is an embedded element of a teacher’s everyday practice (Black & Wiliam, 1998; Shephard, 2000; Hattie, 2003; Wiliam & Leahy, 2015). In addition, it is dually important to note that Hattie (2003) also emphasized the importance of timing as it relates to formative assessment. Feedback must be timely in nature and offer additional insight into how a student can improve. I often hear the complaint from teachers that, “I spend all this time writing feedback on a test only to have a student throw it away.” Feedback must be given quickly and offer an opportunity for students to make corrections or learn from their mistakes. If there is no opportunity to improve, there is no reason for students to look over the material. Remember, formative assessment informs instruction and learning; therefore, to inform something one must have an opportunity to grow from the evidence or information gained during the process.

Feedback is as important to learning as learning itself. Hattie (2007) and Brookhart (2008) agreed that for learning to take place a student must be able to see the difference between their current level of knowledge and the intended goal or outcome. Black and Wiliam (1998),
went on to add that when there is a differential between a learner’s perceived state of understanding and the intended outcome or goal, the overall results can be affected. If a student has a skewed misconception regarding their level of understanding, they will have less of an opportunity to hit the intended target. The teacher’s role is to provide on-going feedback that helps to close the gap between student perceived knowledge and true understanding.

Formative assessment can be completed using both formal and informal methods. To further clarify this, it is important to explain the difference. Formal methods are used to document learning and allow for a more in-depth picture of student achievement. Informal methods are the daily checks teachers use to assess student understanding. These daily checks can come in the form of questioning, real-time checks during instruction, and the use of discussion techniques. Wiliam and Leahy (2015) believed that formative assessment provides evidence about your students’ strengths and weaknesses and can further provide varying instructional techniques to improve questioning including how to develop and capitalize upon more teachable moments. Any type of assessment, whether formal or informal, can be used to assess learning, but improvement lies within the timely use of the data.

According to Yao (2015), a teacher’s perception and their classroom practice may not be fully aligned. A teacher’s perception of effective teaching practice can affect their instructional delivery, and inconsistent use of formative assessment can alter its overall effectiveness. Since the use of formative assessment involves new methods for many teachers, including the teachers used in this study, their overall perception of how effective formative assessment is can affect its usefulness in the classroom.
Implications for this Study

As one can clearly see, formative assessment is not about the kind of assessment you use in the classroom, but what you do with the results or findings of the assessment that makes the difference. Even though researchers do not fully agree on a definition of formative assessment, this study will show how the practice of using formative assessment can only be successful if the teacher delivering the instruction understands the practice itself. The position taken in this study was that research was plentiful regarding formative assessment in education, but little research is available on how teachers’ perceived understanding of formative assessment affects their instructional practice. In addition, with appropriate whole-school and individualized supports, deeper understanding can evolve over time and translates into observable instructional practice. While it is not denied that some teachers did use formative assessment before beginning this study, all three teachers were at different levels of understanding. It will answer the why behind the hurdles of implementation and evaluate whether teacher perception can be directly be linked to the success or failure of a formative assessment system.
CHAPTER III

DESIGN AND METHODOLOGY

This chapter focuses on the design of the study and gives a description of the methodology used to conduct it. Specifically discussed are the review of the problem, development of an appropriate instrument, the population and sample, and the procedures adopted for data collection and analysis.

Methodology

The methodology used in this study was situated in the social constructivist framework. More specifically, in this study, I used a multiple case study research approach. Creswell (2014) described case studies as a tool of inquiry used where a researcher takes an in-depth look at a case over a specific period of time. Usually this time is limited in nature and the researcher also uses a variety of data collection tools with detailed procedures.

Since the overall design uses a multiple case study approach, the study itself is qualitative in nature. In qualitative research, the purpose is to understand and then interpret the meaning behind what people bring to their everyday experiences. Merriam (2009) stated, “Qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they had in the world” (p. 13). In addition, the researcher is charged with the responsibility of “individually and collectively construct(ing) the meaning of the phenomenon under investigation” (Teddle & Tashakkori, 2009, p. 6). This study is designed to explore how teachers’ perception of formative assessment affects their overall instructional practices. In order to achieve this, a case study approach was used. The journey of three teachers’ perils as they work to implement a formative assessment culture was documented over a one year period. Finally, multiple case studies enable an analysis across
multiple contexts allowing for triangulation of the data. According to Merriam (2009), a case study provides “an in-depth description and analysis” (p. 40) and supports investigation into the phenomenon that occurs within a real-life setting.

**Conceptual Framework**

“Constructivism has been recognized as both a paradigm as well as a theory” (Liu & Matthews, 2005, p. 386), and within the last thirty years, it has gained increased popularity within our school systems. Most recently, it has been in the middle of political and local firestorms of criticism both for and against its principles. In Illinois, the methodologies associated with the constructivist teacher are the embodiment of a new framework for teaching, otherwise known as the teacher evaluation tool or the Danielson Model for Professional Practice. Constructivism is often utilized in the early elementary to possibly late elementary grades, but now is being used in junior high/middle schools and secondary schools across Illinois. Some teachers are being forced to switch their entire skill set to mimic the excellence defined as a constructivist teacher. Whether a teacher in Illinois is for or against this type of teaching, it is the standard for which educators are being held. With this in mind, one must understand the guiding principles of a constructivist teacher.

Constructivism is an approach that empowers the teacher to “search for students’ understandings of concepts, and then structures opportunities for students to refine or revise these understandings…” (Brooks & Brooks, 1999, p. ix). Learning occurs in the confines of a child’s knowledge base and growth is obtained as knowledge deepens. Connections are made with past information and added to as new situations are presented to the learner. Dewey (1938) has guided much of these ideas of constructivism where teaching and learning take place as part
of a social activity. During these activities, learners construct information from shared learning experiences, inquiry, and a series of ongoing feedback and reflection.

As part of a social constructivist learning theory, the work of Vygotsky is often referenced. Students learn largely from the situation and world around them. Learning, therefore, is often considered to be situation and environment centered (Liu & Matthews, 2005; McInerney & McInerney, 2002).

A constructivist classroom uses assessment as part of the learning process, not a means to an end. This approach views learning as sequential, and ever-growing. Assessment is viewed as preparation for future learning and not a method of “gotchas”. It focuses on how the student can prepare themselves to do better next time before moving onto the next topic. It is a gentle insight into the death of knowledge or skill set of each student. It is not about how much you cover, but more about how deep you go in the content you are covering so students have an opportunity to connect with the material. Often one hears the depth versus breadth argument in teaching. In a constructivist classroom, coverage of content is not as important as emphasis is placed on knowing where the learner is on the learning continuum and creating an environment that supports this. A constructivist teacher is not as concerned as to whether or not students finish the book. Instead, the teacher uses authentic, observable evidence to determine if students are ready to move onto the next piece.

Increased mandates regarding practice may be explained, in part, by three theories: social constructivism, adult learning theory, and social learning theory. This study was framed using these three theories.

In a constructivist framework, “learning is a complex process that defines the linear precepts of measurement and accountability what students know consists of internally
constructed understanding of how their worlds function” (Brooks & Brooks, 1999, p. viii). In constructivist learning theory, (a) teachers value their students’ point of views, (b) classroom activities challenge students’ suppositions (c) teachers pose problems of emerging relevance (d) teachers build lessons around primary concepts and big ideas and (e) teachers assess student learning in the context of daily teaching (Brooks & Brooks, 1999, p. viii-ix). For the purpose of this study, we focused on the constructivist idea of assessing learning during the process of learning itself. In the social construct of this lens, knowledge is constructed in social settings. For example, information regarding student understanding can be obtained by ongoing discussions with peers and teachers. Assessment of student knowledge can be done in real time. Teachers have the power of knowledge at their fingertips if they construct situations where students can share, reflect, and build on their knowledge base.

Using the constructivist lens coincided with the use of a case study. Constructivists believe that people construct their own understanding from the world around them. Documenting teachers’ perspectives, using their own insights, support the use of a case study approach. One’s experiences or prior knowledge can dictate one’s approach to interpreting new information and perceptions. In this lens, learning becomes a process of connecting schema to create complex understandings. According to Merriam (2009), “Case study knowledge resonates with our own experience because it is more vivid, concrete, and sensory than abstract” (p. 44).

Review of the Problem

The purpose of the study was to investigate how classroom teachers perceived the impact of formative assessment on their overall instructional practice. The study was designed to obtain information about teacher self-reported perceptions of formative assessment as part of their everyday planning and preparation. As stated in Chapter II, change is difficult, and teachers
around the school reported apprehension about implementing formative assessment in their daily practice. Formative assessment is a planned process that utilizes both formal and informal methods. It is “not a spur-of-the moment activity.” (Popham, 2008, p. 18). Since this was a major paradigm shift for teachers, the instructional culture of this high school underwent a major overhaul in their approach to instruction.

The study documents and analyzes how teachers’ perceptions change over time and the professional development supports available at the secondary level to assist faculty as they learn and implement formative assessment in their classroom. According to Zimmerman (2006), an effective strategy to assist with supporting change is tailoring professional development opportunities to meet the needs of your teachers.

The discussion of related literature in Chapter II indicates that research is available on the formative assessment, but very little research is available on the teacher’s perception of formative assessment. Gaps in the literature occur when trying to analyze if teachers’ perceptions of their understanding of formative assessment is a valuable tool when implementing it into their instruction. There are articles and solid research around why formative assessment is important, but the research is obsolete when looking at whether teachers’ understanding of formative assessment is impacting them in the delivery of the practice itself. Research focuses on the benefits of formative assessment, and why teachers use assessment in the classroom (Shephard, L., Whitworth, B., et. all, Parsons, S., et. all, Filsecker, M., et. all). Furthermore, analyzing why or why not teachers use formative assessment and if it is being used consistently will broaden the educational field in the area assessment.
The main objectives of this study include:

1. To evaluate how teachers view formative assessment as part of their instructional process.
2. To provide a framework for formative assessment’s role in curriculum and instruction.
3. To determine how aligned professional development supports teachers as they navigate formative assessment from a concept to an instructional practice.

In order that data relevant to the problem could be obtained for analysis and discussion, a research question was posed. The research question for this particular study was derived from questions and concerns that developed from teachers as they were undergoing the system’s change within the school and further supported by analysis of the current research. This overarching question is, “Do classroom teachers overall understanding of formative assessment impact their planning and instruction for students on an individual, on-going basis?” From this initial question, the study emerged. Empirical evidence supports the idea that “formative assessment does improve learning” (Black & Wiliam, 1998). With evidence supporting the use of formative assessment, it is clear to note that for the concept of formative assessment to work, teachers must be actively implementing this strategy. This is a two-fold concept. Teachers must believe in assessment and then use the results to help students set goals and plan for instruction. As Black and Wiliam (1998) states, “The core of the activity of formative assessment lies in the sequence of two actions. The first is the perception by the learner of a gap between a desired goal and his or her present state (knowledge, and/or understanding, and/or skill). The second is the action taken by the learner to close the gap in order to obtain the desired goal” (p. 20). This study is important to analyze teacher’s perceptions of formative assessment and if it is being used consistently to plan for individual instruction.
Where it All Began for Lincoln High School

This study actually began with the inception of the Charlotte Danielson Framework for Teaching in August 2014. Although this particular study is being chronicled through the journey of three teachers, the experience of the school itself must also be documented, as it too had an effect on the overall experiences these teachers encountered. Picture in your minds returning to school after a long summer break, only to spend one-and-a-half days learning about the new evaluation tool you and your fellow teachers would be held accountable to beginning that school year. This was the message all teachers would return to that particular fall. Even though the teachers were handed a copy of the Charlotte Danielson Framework before leaving the previous school year, many were very apprehensive about what this new tool was all about.

After spending one-and-a-half days listening to myself and the principal discuss the Charlotte Danielson framework, the teachers returned to their rooms with lingering questions and concerns but were asked to take some time to digest these questions and share them with their department chairs. Within weeks of implementation, questions about formative assessment began to arise from the department chairs and individual teachers. These questions and concerns were around topics such as, “What is formative assessment and how is it different in summative?, What does it look like in my room?, “How do I have students do it for themselves?, Can you provide some in services or professional development to help us better understand what formative assessment is?” Again, these were all questions and concerns looming throughout the school from various teachers.

It was at this point, it became clear that the greatest need at Lincoln High School was the need to address the questions surrounding formative assessment. The main question that all other questions would later stem from was, “Do classroom teachers overall understanding of formative
assessment impact their planning and instruction for students on an individual, on-going basis?”

As the school was also implementing an overarching bigger change by overhauling its evaluation system, the need for addressing questions within the systems change was very important to make certain the teachers felt supported along their journey. Understanding that change is incremental in nature, you often have to take small steps to get to the end result. Knowing you know and supporting their needs will further develop trust and show that accountability for moving an initiative forward is shared between all. “By providing opportunities for teacher collaboration and participation in decision-making, principals and other school leaders can also develop a supportive culture for change” (Zimmerman, 2006, p. 242).

**Participants**

As the questions swirled, the purpose for this study also developed. I then sent out an open request through the department chairs asking for volunteers to participate in the study. To ensure everyone would have a chance to be a part of the research, the study was open to anyone in the district who wanted to learn more about formative assessment and have access to outside observers and additional professional development. Information about the research was shared during a meeting of department chairs, and an open invitation to participate was given at this time. Interested teachers were asked to contact the researcher and specific information about the study was shared individually with the volunteer. The objective was to obtain at least three volunteers who willingly wanted to participate in this research. If more than three individuals volunteered, names would be drawn out of a hat to ensure equal opportunity for all willing volunteers.

Out of these staff members, only three volunteered to be part of the study. These three volunteered for their own personal reasons. Two volunteered in order to gain additional
professional supports, and one volunteered because he was a teacher leader who wanted to get additional feedback to better help and support others. Whatever the reason, all three were willing participants and had the freedom to be as active in this research as they would like to be. These three participants represent moderate to high levels of teaching experience and had the ability to withdraw from the research if they would like to at any time.

**Description of Participants**

Table 1

*Description and Demographics of Voluntary Participants*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Grade Level Taught</th>
<th>Subject Taught</th>
<th>Leadership Experience</th>
<th>Total Years of Teaching Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Benson</td>
<td>High School</td>
<td>Math</td>
<td>Department Chair</td>
<td>30</td>
</tr>
<tr>
<td>Mr. Michael</td>
<td>High School</td>
<td>Physical Education</td>
<td>-----------</td>
<td>9</td>
</tr>
<tr>
<td>Mr. Aaron</td>
<td>High School</td>
<td>Foreign Language</td>
<td>Department Chair, Workforce</td>
<td>12</td>
</tr>
</tbody>
</table>

**Participant 1,** Ms. Benson, one of ten math teachers in her school and was in her thirtieth year as a math education teacher. She had a Master’s Degree in Mathematics and was one of the most tenured professionals in the building. In addition to being a math teacher, Ms. Benson was also a math department chair. One of her goals in volunteering for this study was to “better support not only her students but her department” (M. Benson, personal communication, October, 2014).

**The second participant,** Mr. Michael, was one of six physical education teachers in his school and was in his ninth year as a physical education teacher. He recently completed his Master’s Degree in Educational Leadership. With different mandates and challenges coming his way and also working to understand these mandates, Mr. Michael volunteered to be a part of this study to
better understand what formative assessment was and how to better implement it in his classroom.

The third participant, Mr. Aaron, was in his 12th year as a foreign language teacher. He was one of six teachers in his department. His experience was unique because before becoming a teacher, he was in the workforce and chose teaching as his second career. Mr. Aaron served as department chair for his department. He, too, volunteered to be a part of this study to gain insight and information to be a “better support for his department” (M. Aaron, personal communication, November, 2014).

Ms. Benson, Mr. Michael, and Mr. Aaron all represent teachers from the same high school. This high school is categorized by the National Center for Education Statistics or NCES ("Rural education in America," 2006) as a rural school because it lies within no more than 5 miles of an urbanized area. According to the NCES, an urbanized area includes, areas that have populations at or above 50,000 people ("Search for Schools," 2009). Their school was a high school district with an enrollment of 1,030 students from 6 feeder schools. Students represented a vast background with 50% of the population from free and reduced lunch, 4% homeless, and 16% of the student population with disabilities. With respect to ethnicity, the district represents 53% white, 32% black/African American, 8% Hispanic/Latino, 3% two or more races, and 4% Asian.

General Description and Demographics

The population for this study consists of secondary teachers in rural high school located in the southern Midwest. The rural school is home to approximately 1034 students from varying levels of socio-economic and cultural backgrounds. The school has approximately 90 certified staff members and 19 noncertified staff members.
Setting

The setting for this study was a natural setting and took place at a medium-sized rural high school located in the southern Midwest. All observations, interviews, and surveys were conducted on site. This allowed the researcher a first-hand account of the experiences and conversations taking place regarding formative assessment. “This up-close information gathered by actually talking directly to people and seeing them behave and act within their context is a major characteristic of qualitative research.” (Creswell, 2014, p. 185)

A School-Wide Formative Definition Was Developed

At this point, Drs. Smith and Cole were invited into the school to speak with the department chairs. It was very important to recognize when to call in additional supports since the teachers were requesting assistance with formative assessment. Drs. Smith and Cole spent about 20 minutes reintroducing themselves to the staff, and detailing their role as outside observers in the school. Dr. Smith went on to state that, “Their role is not to dictate what formative assessment looks like for this school but to assist as the teachers grow and understand it. They are here to support the process and grow alongside us. The best experts are the ones in your own backyard.” (2015). From this meeting, the department chairs decided it would be important for Dr. Cole and me to present an entire overview of what formative assessment is to the staff. This presentation was completed in February 2015 (Appendix D). As seen on slide 2 of the presentation, the questions and concerns from the staff continued to be the central focus of the presentation. The questions, concerns were as follows:

- What is the research around formative assessment?
- What counts as formative assessment?
- Can grades be a type of assessment?
• What are some examples of formative assessment?
• How do we get buy-in from our students?
• What does formative assessment look like in a lesson plan?
• Is formative assessment only a formal process?
• What does record keeping look like?
• What counts as data?

After the 55-minute presentation, the teachers returned to their departments to develop their own working definition of what formative assessment was to them. Each department was asked to submit this definition along with any additional questions or concerns to the Curriculum Director before the end of the day.

Upon receiving the submitted working definitions with follow-up questions, a small group of three teachers representing different departments assisted the Curriculum Director with initial data analysis through initial coding or sorting of the data obtained from all departments. “Coding is nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of the data” (Merriam, 2009, p. 173). Department A noted, “Formative assessment is the assessment for learning, using the results to guide the daily instructional and learning process. Students and teachers frequently monitor progress and should work together to develop goals and outcomes.” This compares to Department B that stated, “Formative assessment is a process that is ongoing both formal and informal and is used to influence, develop, and direct our instruction and can be used by both students and teachers.” This can also be compared to Department C which stated, “Formative assessment is anything teachers are using-questions, quizzes, surveys, activities, etc.-to
inform and adjust their own practice of instructing students and to inform students of their own learning and progress.”

All three of these departments are examples of the varying answers given by the departments within this high school. Department C also stated that even though they felt students should be more responsible for their learning, it is hard to hold teachers accountable for students in this capacity if they do not want to learn. Their working definition for formative assessment reflected the state in which this particular department felt students were at this point versus more of the state in which they would like students to be in the use of formative assessment.

Other concerns that came out of this forming the definition process was, “How do you make students accountable if grades are not assigned?” Another department stated, “What type of data do I actually need to keep making something formative assessment?”

It was at this time, the small committee of three and me, the Curriculum Director, decided the best way to ensure the questions and concerns were addressed, a survey needed to be developed. According to Duke (2004) and later cited by Zimmerman (2006), the first step in working to overcome resistance to change is identifying the “who” and “why” behind the resistance. The small committee acknowledged since the school was undergoing an overhaul in the evaluation process, and the questions with formative assessment were heavily tied to this change, all teachers had some hesitation; therefore, the “who” was not as important to the committee. The “why” piece really stuck out as an important element to supporting teachers in this change process. Just where was their biggest hesitation? What was their misunderstanding? Now that Lincoln High School has this school-wide definition, how can teachers be supported as they work to achieve the goal of what this school-wide stated formative assessment definition
looks like in a classroom setting? How can the school leadership better support this change in assessment practices?

The formative assessment survey was developed by coding information into categories derived from the analysis drawn from the process mentioned above. Determining the “why” behind teacher perceived understanding of formative assessment as it pertained to instructional planning seemed the most effective way to gauge to gain insight into teacher initial understandings.

Survey Information

Coding Process

The field notes, results from concerns and questions gathered from departments, and information from individual teacher concerns were gathered and stored for analysis. Data was stored in the form of written files. This data analysis process involved what Merriam (2009) considers “category construction” (p.178). To begin with, the small committee and I read through all the data sources obtained from the staff and developed single words or short phrases also known as “open codes” (Merriam, 2009, p. 178) to identify initial categories in the context of what we were seeing.

At this point of the process, it was important to remain open and flexible to the needs of the school and ensure that the survey reflected the main question that focused on teacher perception of formative assessment as it pertains to instructional planning. No matter where the needs of the staff took us, the large umbrella concept of formative assessment and instructional planning stayed the same. This umbrella question of, “Does classroom teachers overall understanding of formative assessment impact their planning and instruction for students on an individual, on-going basis?” always remained the focus for not only the survey but the study.
This central question was the driving force behind all the initial questions, concerns, and professional development that arose from the inception of the new evaluation system. According to Merriam (2009), data analysis should meet specific criteria. This criteria includes, “responsive to the purpose of the research, be exhaustive, and be mutually exclusive” (p.185).

**How was each Category Determined?**

Each category was identified by the small group through the coding process. As the five categories were highlighted, the staff formative perception survey was born into existence. The survey had to reflect the needs of the entire staff but also had to be aligned to what research said formative assessment should look like. The categories and some examples that guided the small group as to their determination of each category is as follows:

1) **Teachers**: Example for coding--How often do I have to go over the material? The teacher’s role was highlighted throughout this process on every question and concern. Teachers questioned how often they needed to review the material and then move on to the next topic. It also became clear from their responses that some felt formative assessment should influence their practice but were unsure of how.

2) **Students**: Example for coding--If students don’t want to do the work, how do you hold them accountable? The student’s role was a source of contention because many were unsure of how to make the students accountable for something, especially when a grade was not assigned. Students should be held responsible for their learning and should be asked to adjust their progress to meet their goals. The question looming was how to help students set the goals and what would their targets be?

3) **Student learning**: Example for coding--How do I know when they have it or don’t without giving a test? In addition to this, another question that was asked was if
everything had to be pre-assessed before you started it. If something was pre-assessed, does it always have to be graded? How do you manage students within a whole group when there are varying levels of learners within that same group?

4) **Methods**: Example for coding--Students want to see grades. That is what can motivate. What are the exact methods that can be used for formative assessment? Does everything have to be in a formal state or can you just informally assess your class and move on?

5) **Teacher competencies**: Example for coding--What does formative assessment look like in a lesson plan? What are the best practices that surround formative assessment? If I want to differentiate in the classroom, can formative assessment be used to support this process?

These codes or categories then emerged as the five themes for this survey. These themes further supported the overall research question: “Do classroom teachers overall understanding of formative assessment impact their planning and instruction for students on an individual, ongoing basis?

1) The accountability of *teachers* in the assessment process

2) The accountability of *students* in the assessment process

3) **Student learning** as a basis for use of formative assessment

4) Types of *methods* used

5) Overall *teacher competencies* about formative assessment

**Question Development for Each Theme (see Appendix E)**

It is dually important to discuss how the five questions for each theme within the survey were developed. These, too, were developed purposefully and aligned to the needs of the staff, as
well, as the research. Using the coded information developed from questions and comments of the staff, five questions were aligned to each theme. The themes and questions are as follows:

**The accountability of teachers in the assessment process**—As stated previously in Chapter III, Brooks & Brooks (1999) said a Constructivist teacher searches for students’ understandings and works to uncover their misunderstandings. In addition, many researchers agree that formative assessment is a vital aspect of a child’s learning process and should be used to plan and inform instruction (Shephard, 2000, Whitworth, Maeng, & Bell, 2013, Parsons, Dodman, & Burrowbridge, 2013 & Filsecker & Kerress, 2012). The teacher is one tool available to students that help bridge the gap between what is learned in class to what is completed in the classroom. Understanding what the teacher perceived their role to be in implementing formative assessment would be a valuable insight into seeing if teacher perception of their role was important to the assessment process.

1. *I try to understand why my students succeed or fail on an assessment or activity.*
2. *If students do poorly on an assessment, it is my responsibility to re-teach.*
3. *Assessment is a tool used only by the teacher.*
4. *The teacher should offer on-going and appropriate feedback to the students.*
5. *The teacher should reflect on multiple student data before drawing academic or social conclusions about a student’s progress.*

**The accountability of students in the assessment process**—As stated in Chapter II, assessment is an on-going process, not viewed as a one-time shot. In addition, it is embedded as part of one’s instruction (Shephard, 2000; Hosp, 2012; Hosp & Ardoin, 2008). Assessment should allow the learner opportunities to modify their learning versus putting an end to it. The learner should be afforded the opportunity to get input from others. Students should be encouraged to ask
purposeful, open-ended questions to one another in search for understanding and clarification of a concept or phenomena (Brooks & Brooks, 1999).

6. Students should be actively involved in setting learning criteria.

7. Students need opportunities to re-evaluate their understanding of the content.

8. Assessment is a tool used by the learner.

9. Students should modify or adapt their learning strategies to meet the requirements of the course/classroom.

10. Students should ask questions and offer peer feedback during instruction.

Student learning as a basis for use of formative assessment—According to Popham (2008), formative assessment must be genuine in nature and center around the needs of the classroom instruction. Student learning should be about creating assessments that elicit information to uncover student misunderstandings and lead to potential understandings. Pre-assessment is one tool available for uncovering student misunderstandings, but should be used with caution. According to Parsons et al. (2013), student understanding can be so complex at times, it is important to note that pre-assessment can only offer so much information. It is important to further be prepared to monitor progress and later “adapt instruction based upon students’ needs and instructional situations” (Parsons et al., 2013, p. 40).

11. I pre-assess skill level or knowledge before beginning a unit or chapter.

12. A homework grade is important to understanding student learning.

13. End of Chapter or Unit tests are the best methods for documenting learning.

14. Whole group instruction works in high school because I can teach to the middle and work up or down based on the daily student responses.

15. My day is too busy to fully implement formative assessment in my classroom.
Types of methods used--As stated in Chapter II, Black, Harrison, Lee, Marshall, and Wiliam, (2004) believe summative assessment addresses accountability, ranking, and/or certifying competence. The research goes on to validate that both summative and formative assessment are important for understanding the academic and social progress of a child. Grades are an example of a summative method for tracking student learning. Determining teachers’ understandings or misunderstandings of grades roles in formative assessment was important aspect of this component of the study. In addition, teachers’ primary method of instructional delivery was lecture. According to Danielson (2007), there is a distinct difference between active and passive engagement. The method in which a teacher presents information and the instructional purpose behind it should require the students opportunities for intellectual involvement with the content. Furthermore, the instructional purpose should then be aligned to an assessment. Parsons et al. (2013), goes on to support the idea that student progress should be assessed in multiple ways.

  16. Using a varied approach to questioning is part of the formative assessment process.

  17. Grades define student learning.

  18. Lecture is the most effective way to teach high school students.

  19. Documenting individual progress towards learning targets is a key factor in planning.

  20. There is time for student reflection during the instructional day.

Overall teacher competencies about formative assessment--According to Parsons et al. (2013), the most effective teachers are those who are able to differentiate their instruction by leveling for a variety of learners in real time in the midst of their instruction. In addition, Hosp & Ardoin (2008) stated that assessment should include information from multiple sources because it will give you a broader perspective regarding student understanding. They go on to state that
assessment should indicate where student difficulty lies and should yield information that enables the teacher to make decisions about student learning. It is important to note that if information or study material is only being used to elicit a passing score on a test, this information has the grave potential to lead to misinformation regarding student understanding of a skill or concept.

21. It is important to give a study guide for tests.

22. An assessment plan should be created before instruction begins.

23. Assessment should only be used as an accountability piece for reporting grades.

24. Differentiated instruction based on evidence of student learning is part of my daily planning.

25. Formative assessment is used daily in my classroom.

Research Design

Refer to Table 2 for a visual representation of the research design.

The design begins with the research questions for the study:

1) How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice?

2) How do teachers’ perceptions of their own understanding of formative assessment evolve over time?

3) What supports exist to help teachers implement formative assessment at the high school level?

From these questions, three teacher participants were selected (see sections below for descriptions of each step in the research design) and data collection procedures clarified and started. After the school-wide formative assessment survey was administered, data was collected
from each teacher participant and an initial data analysis informed decisions for both school-
wide and personalized professional development. Next, each teacher participant was observed by
outside professors, debriefed, and field notes collected. A focus group was held discussing
formative assessment followed by an additional observation by outside professors with
debriefing and field notes collected. Another focus group was held and a post-formative
assessment survey was completed. Finally, a cross-case analysis was used to explore and further
reflect on the research questions.
School-wide development of curriculum roadmaps aligned to course goals and unit objectives, ongoing school-wide and individual professional development on instructional practice, and continuous feedback.

Define and Design

School-wide

Questions about formative assessment emerge from whole school

Case study participants volunteer

Design data collection/protocol

Invite professors to Department Chair

Present at faculty meeting formative assessment definition created

Small committee used coding to identify categories of focus for development of the survey

School-wide formative assessment survey

Five themes emerged

Case study #1 observation & debrief (1) – field notes

Case study #2 observation & debrief (1) – field notes

Case study #3 observation & debrief (1) – field notes

Case study #1 observation & debrief (2) – field notes

Case study #2 observation & debrief (2) – field notes

Case study #3 observation & debrief (2) – field notes

Case study #1 observation & debrief (2) – field notes

Focus group

Focus group

Focus group

School-wide

Analyze Conclude

Analyze survey results

Write cross-case report

Develop answers to questions

Prepare/Collect/Analyze

Table 2
# Data Collection Timeline

Table 3

*Data Collection and Timeline*

<table>
<thead>
<tr>
<th>Time</th>
<th>Participants Involved</th>
<th>Data To Be Collected</th>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase One:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2014</td>
<td>Faculty, Case Study Participants, Outside</td>
<td>Faculty Survey, Individual Case Study Survey, Individual</td>
<td>1,2,3</td>
</tr>
<tr>
<td></td>
<td>Professors, and Researcher</td>
<td>and Informal Conversations</td>
<td></td>
</tr>
<tr>
<td><strong>Phase Two:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring 2015</td>
<td>Case Study Participants, Outside Professors,</td>
<td>Classroom Observation with Follow-up Debriefing by</td>
<td>1,2,3</td>
</tr>
<tr>
<td></td>
<td>and Researcher</td>
<td>Professor, and Focus Group</td>
<td></td>
</tr>
<tr>
<td><strong>Phase Three:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring 2015-Summer 2016</td>
<td>Case Study Participants, Outside Professors,</td>
<td>Individual Case Study Survey, Observation with</td>
<td>1,2,3</td>
</tr>
<tr>
<td></td>
<td>and Researcher</td>
<td>Follow-up Debriefing by Professor, and Focus Group</td>
<td></td>
</tr>
</tbody>
</table>
Instrumentation

In qualitative research, the researcher must use multiple senses while observing. “The data in a qualitative study can include virtually anything that you see, hear, or that is otherwise communicated to you while conducting the study” (Maxwell, 2013, p. 87). This study was designed to allow for both informal and formal methods of data collection to ensure no collected documentation was overlooked. It is important to recognize that any and all evidence collected might have importance. Maxwell (2008, p. 88) stated “You are the research instrument in a qualitative study, and your eyes and ears are the tools you use to gather information and to make sense of what is going on.”

Data Collection/Data Sources

For the collection of data, I used the following four types of instruments: (1) Survey (2) One Unstructured Individual Interview (3) Informal conversations with field notes (4) Classroom observations and (5) Focus groups. Using multiple data sources brought internal validity to the study by affording the opportunity for triangulation of the data. Having outside observers sit in on focus groups, complete classroom observations, and compare findings with me allowed me to cross-check the findings to ensure the trustworthiness of the results. “Probably the best well known strategy to shore up the internal validity of a study is what is known as triangulation” (Merriam, 2009, p. 215).

Timeline for the survey

The process of developing the survey was not taken lightly. The researcher used information gathered from all departments and feedback and/or comments obtained from individuals. The survey was administered on March 4, 2015. Each department chair was responsible for collecting the unmarked responses and to return them to me by March 25, 2015.
I appropriately marked the 3 teachers’ surveys involved in the study. An identifying code number was written on the upper right hand corner of their survey. This number was used as the identifying number as surveys were returned. This number assisted in maintaining confidentiality of all participants. Once the survey deadline was met, all teacher participants of the study were identified by the coded number. This coded number system was explained in the consent form to participate. The survey was resubmitted to all the staff and the three participants in April 2015.

The survey was formatted using a four point Likert scale. This removed the use of neutral responses and forced all participants to agree or disagree. The scale is as follows: 1- strongly disagree, 2 - disagree, 3 - agree, 4 - strongly agree. Groups of questions were generated and aligned to the following themes: 1) the accountability of teachers in the assessment process, 2) the accountability of students in the assessment process, 3) student learning as a basis for use of formative assessment, 4) types of methods used, and 5) overall teacher competencies about formative assessment.

**General Survey Information**

As stated previously, the surveys were generated from responses gathered from the qualitative data collection process. In this study, information was obtained from teachers within a single school- school district. Using this information, a formative assessment perception survey was created. The survey was developed out of questions and concerns expressed from staff. It was created as a response to help determine the needs of staff and administration in the district.

Results from this survey became the starting point for professional development and further school-wide discussions for teachers and administrators. It helped to determine teachers’
initial understanding of what formative assessment looked like, and if their perception of its benefits outweighs their perceptions of its drawbacks. It is important to note whether one can measure the practicality of managing individual information on each student work logistically and if this can work in a classroom while teaching an entire class. It is dually important to note that even if a teacher believes in the benefits of formative assessment, can a teacher overcome the everyday hurdles of instructional planning to use this information to plan for student learning?

Having this initial information from the survey allowed me to know if the teachers overall perceptions of formative assessment was positive or negative and how this perception translated into instructional delivery over time. All teachers within the district were surveyed pre- and post-, but only three teachers’ responses were used for this research. These teachers received focused, individualized professional development and additional supports beyond what was offered to the school as a whole as needed to support them throughout this study. Again, this research was conducted as a piece of an on-going school improvement initiative within this high school. Even though the journey of the school as whole has been chronicled in this study to help set the stage, the case study focuses only on the three teachers as they navigate this formative assessment journey.

**Individual Interviews with the Researcher**

As a follow up, individual interview questions were developed (Appendix F) to be used following the distribution of the school-wide formative assessment pre- survey. Consent to be quoted and/taped anonymously was secured prior to the interview by signing of a release form. These questions were used as a follow up for the researcher to gauge deeper insight into individual perceptions of three teacher participants. The structured interview lasted fifteen
minutes and field notes were taken. All interviews took place during the school day, during the teachers’ prep time. They were scheduled via email to ensure times were set appropriately.

**Classroom Observations**

Each participant was observed two times for at least forty-five minutes each by one of two outside observers. The goal of the observation was to obtain first-hand accounts of how the teachers used formative assessment and how he or she was growing in his or her use and understanding of formative assessment. The professors used scripting as a method for taking notes during the observation and tailored feedback for their instruction to the Danielson Framework for Teaching (2007).

Following each observation, the observer participated in a follow-up debriefing to discuss any questions, instructional methods, or ideas that arose from the observation with the teacher participant. This debriefing was unstructured and was used to assist the observer with the research and to allow the teacher participant to ask any questions he or she may have regarding formative assessment. All follow-up debriefings took place during the school day, during the teacher’s prep time. The time of the debriefing varied in length, depending on the needs of the teacher participant and observer.

**Focus Group**

After the initial survey, one individual interview, and an observation by the outside professor, a focus group was conducted to discuss how formative assessment was being used in their departments. “A focus group is an interview on a topic with a group of people who have knowledge of the topic” (Merriam, 2009, p. 93). This initial focus group was used as a follow-up to the survey and was recorded. The focus group session began with the following question,
“How do you currently use formative assessment in your planning and delivery of instruction in the classroom?” Field notes were taken during the discussion.

Following the second observation a final focus group was conducted. This focus group consisted of the three participants, one of the outside observers, and me. I conducted the focus group by asking pre-set follow-up questions about the research (Appendix G). Participants were asked to set aside fifty minutes for this focus group that took place during the school day in a private office. The purpose of this focus group was to clear up any misconceptions that may have come up during the study and to give participants an opportunity to share ideas and talk about their ideas on formative assessment.

**Data Analysis**

Data analysis consisted of analyzing the qualitative themes that emerged from the data collection by assigning codes that enabled me to determine overarching ideas and questions that emerged from the staff and case study participants. The survey was used as the springboard to help identify the three teacher participants’ initial perceptions of formative assessment and how this played out in planning for instruction. Knowing how a teacher perceives something to be allowed me to know where to focus professional development. If the teacher required assistance in planning for individual students, then this is where professional development occurred. If a teacher believed in the value of formative assessment, but did not know what it looked like in a classroom, then professional development will occur here.

The survey had five themes:

1) the accountability of teachers in the assessment process

2) the accountability of students in the assessment process

3) student learning as a basis for use of formative assessment
4) types of methods used

5) overall teacher competencies about formative assessment.

Through this research, I attempted to connect teachers’ perceptions of these themes and how they further connect to daily instructional implementation in the classroom. Does a teacher’s perception of formative assessment translate into everyday instructional delivery? The themes for this research emerged through the process, but remained a priori in nature throughout the remainder of this study. According to Teddlie & Tashakkori (2009) a priori means a theme that is predetermined in nature. Although the theme emerged through the initial survey data analysis process, it remained in place throughout the remainder of the study.

**Interpretation**

The results are reported in a written discussion of the findings from the collected data. Using the qualitative findings of the results of the participants survey results, coupled with information from the observations from Drs. Cole and Smith, a determination for what each teacher needed for focused professional development was determined. Next, I will explain the results of the survey or qualitative data and how this information was used to show growth of a teacher’s understanding on a continuum over time.

**Trustworthiness and Credibility**

In order to avoid potential problems with trustworthiness and credibility, triangulation of data was used. Triangulation means that multiple data sources were used when collecting data. Not only interviews and focus groups were utilized, but also logs, memos, data collection, and expert sources were consulted to ensure that the data was uncorrupted before, during, and after data collection. Merriam (2009) explained the importance of collecting data over multiple settings and times to minimize threats to validity (p. 216).
Also, to make sure the data collection was valid, it is important to note some potential biases that, as the researcher, I worked to identify and avoid. I spent the last year as an educator in the focus school. The new teacher evaluation process played an integral role in the emerging use of formative assessment within this school. Upon seeing for myself the challenges and stresses that occurred when teachers are faced with this new evaluation, I found that paying close attention to teacher perceptions of formative assessment contributed to the overall effective use of its results. Being close to the subjects who were studied, forced me to consistently take a step back and to make sure that living the process did not corrupt my overall objectivity to their responses.

Some steps I took are as follows: kept on-going logs and journals of the on-site data collection, employed the use of my committee chair and one of the committee members to offer feedback and assistance in interpreting the data, employed the use of outside sources for extra observations and feedback, and maintained a memo of my questions and comments that occurred outside the on-site research times. The outside professors also assisted by observing the participant teachers and meeting one-on-one with them.

In addition, my overseeing professor maintained on-going contact with me and checked over my work. Ensuring for internal validity through on-going member checks was highly important in this study. Being close to the study forced me to revisit the participants and to ask for clarification on their responses, as well as, to meet with my outside committee members for feedback on findings. In addition, each participant was asked to review their interviews and observations to verify that my notes and recordings correctly reflected their statements. Participants were given the opportunity to edit or add to their statements to accurately reflect what they stated. According to Maxwell (2005, p. 111) and later cited by Merriam (2009,
soliciting feedback on a researcher’s emerging findings “is the single most important way
of ruling out the possibility of misinterpreting the meaning of what participants say and do and
the perspective of identifying your own biases and misunderstanding of what you have
observed.”

**Limitations of the Methodology within the Design**

To avoid bias, it was important that I explore my own biases with regards to the use of
formative assessment. It was important that my prior belief set did not interfere with the
research at hand. The largest area that I had to watch for was my belief that formative assessment
was key in moving students forward in their understanding. According to Merriam (2009), “Prior
beliefs about a phenomenon of interest are temporarily put aside, are bracketed, so as not to
interfere with seeing or intuitions of the elements or structure of the phenomenon” (p. 25). It was
important that my biases and assumptions were put aside throughout the study to avoid
corrupting the research. Throughout this research I constantly reviewed my biases to ensure that
I was seeing and feeling what my participants were going through.

In addition, it was dually important to note that working closely with the teachers at hand
required me to set aside my own ambitions for the school as a whole and to focus solely on the
progress of the three teacher participants. Ensuring that the vision of the school moved forward,
as the progress of my case studies remained at the heart of the research, was always at the
forefront of my mind. Consistently talking with my site professor and completing member
checks helped ensure my biases and assumptions were in check throughout the research.
Summary

This phenomenology study used three research questions to better understand how teacher perceptions can affect the overall effectiveness of formative assessment. Through this study, I saw firsthand the lived experiences of the participants and their journey to uncover their own understandings of the uses and processes for implementation of formative assessment.
CHAPTER IV

FINDINGS

This chapter is designed to analyze and present the data collected in cooperation with three teachers from a rural public school from February 2015 to May 2016. The key purpose of this qualitative case study was to gain an understanding of classroom teachers’ perceptions of the process and impact of formative assessment on classroom instruction in a secondary school. The study was designed to obtain information about how teachers view formative assessment as part of their everyday planning and preparation, as well as sought to determine whether or not there was a correlation between teachers’ perceived understanding of formative assessment and their implementation of formative assessment in the classroom. The study also sought to uncover whether a teacher’s perceived understanding of formative assessment can change over time when appropriate supports are put in place tailored to an individual teacher’s strengths and weaknesses.

The following questions provided the framework for this study:

1) How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice?

2) How do teachers’ perceptions of their own understanding of formative assessment evolve over time?

3) What supports exist to help teachers implement formative assessment at the high school level?

Overview of Chapter

This chapter is divided into four sections in which the findings of this research are based on five themes that emerged from the data analysis detailed in Chapter III. The formative assessment perception survey was developed by coding information into categories derived from
the analysis drawn from a small group of three teachers. This small group utilized field notes, questions, and concerns directed from the staff. Understanding of teacher perception of formative assessment as it pertained to instructional planning was not only the focus of this school improvement, but also the source of questions from the staff. It was determined from the small group that the most effective way to gauge teachers’ initial perceptions was to survey the entire staff. The process of how the survey was developed is detailed in Chapter III.

In the first section, I provide an overview of the data analysis method used in this study, followed by an analysis of the results of the pre-post formative assessment survey. In the next section, I provided the findings of each research question supported by a with-in case analysis using the participants’ pre- and post-survey results and information provided by them during the focus groups, interview, observations, and analysis of documents. Each research question is then followed by a cross-case analysis for each question. Lastly, I reported a summary of the section. Results of each research question have been clearly analyzed throughout.

Data Analysis

Data sources

The data results include an analysis of pre- and post-surveys, focus groups with pre-developed questions, one interview with pre-developed questions, artifacts collected from each participant, researcher logs, and observation logs maintained by Drs. Smith and Cole.

Constant Comparative Method

In the next section, I detail the data analysis used in the initial data collections process. The constant comparative method required the researcher to consistently make comparisons of data to determine the similarities and differences. Data was then grouped together based on the patterns that emerged and the relationships between each set of objects being analyzed (Merriam,
For the development of the formative assessment survey, the constant comparative method was used.

**Cross-Case Analysis**

The intent of each cross-case analysis was to look across the three participants for additional supportive ideas and concepts that may provide answers to the research questions. Each theme emerged earlier in the study and remained constant throughout the entirety of the study; therefore, was a priori in nature. The themes continued to be further supported through the findings in the observations, informal conversations, focus groups, and researcher’s logs. In each cross-case analysis, I explored how the shared a priori themes from the three participants relate to each research question and further assimilate together to provide answers to the stated research questions. According to Merriam (2009), once the with-in case study is complete, the researcher must look to build connections across the multiple cases.

**Formative Assessment Survey Results**

The basis for this initial analysis began with the administration of the formative assessment survey to all teachers in the school, with focus on the three teacher participants. As stated in Chapter III, the survey was developed intentionally and with much input from all parties represented within the school from teachers, administrators, counselors, and department chairs. As stated previously in Chapter I, the Danielson Framework (2007) was new and questions were emerging from the staff. Teachers had multiple questions on formative assessment. The following became the epicenter of all questions for this center and from this following question, the study would emerge. The question was, “Does classroom teachers’ overall understanding of formative assessment impact their planning and instruction for students on an individual, ongoing basis?”
With these formative questions circling in the minds of the teachers and halls of this school, it was my role, as Curriculum Director, to determine their basic understanding and to develop a tool to further gauge where to begin professional development and further gauge progress towards mastery of understanding of formative assessment. With the assistance of three fellow teachers in the district, representing three different departments in the school, we worked collaboratively to code and sort through information shared from all teachers within the building to construct a survey that reflected not only the teachers’ responses but also the research around formative practice. Through the coding process it was evident that the teachers’ questions and concerns focused on specific categories, so the basis for the actual themes emerged with ease. To further ensure the survey questions got straight to the heart of the school-wide concerns, the committee’s goal was to “construct categories or themes that capture(d) some recurring pattern that cuts across your data” (Merriam, 2009, p. 181).

The themes aligned to the overarching question sought at the beginning of the study and supported the study’s quest for uncovering teachers’ perceived understanding of formative assessment. The themes in this survey were as follows:

1) accountability of teachers in the assessment process

2) accountability of students in the assessment process

3) student learning as a basis for use of formative assessment

4) types of methods used

5) overall teacher competencies about formative assessment

For my case study, I needed to determine each teacher’s understanding and perceptions in order to understand where to focus professional development and to determine whether or not growth occurred. Using this school-wide survey was the springboard for this research. The first
administration of the survey occurred on March 4, 2015 and the second administration occurred on April 20, 2016. The first initial survey was given to collect baseline data on teacher understanding of formative assessment before research began. The second survey was given to determine teacher understanding after supports were given at the end of the research period.

**Survey Broken down by Themes and Corresponding Questions**

The formative assessment survey with corresponding themes is as follows:

1) **The accountability of teachers in the assessment process**

   1. I try to understand why my students succeed or fail on an assessment or activity.
   
   2. If students do poorly on an assessment, it is my responsibility to re-teach.
   
   3. Assessment is a tool used only by the teacher.
   
   4. The teacher should offer on-going and appropriate feedback to the students.
   
   5. The teacher should reflect on multiple student data before drawing academic or social conclusions about a student’s progress.

2) **The accountability of students in the assessment process**

   6. Students should be actively involved in setting learning criteria.
   
   7. Students need opportunities to re-evaluate their understanding of the content.
   
   8. Assessment is a tool used by the learner.
   
   9. Students should modify or adapt their learning strategies to meet the requirements of the course/classroom.
   
   10. Students should ask questions and offer peer feedback during instruction.

3) **Student learning as a basis for use of formative assessment**

   11. I pre-assess skill level or knowledge before beginning a unit or chapter.
   
   12. A homework grade is important to understanding student learning.
13. End of Chapter or Unit tests are the best methods for documenting learning.
14. Whole group instruction works in high school because I can teach to the middle work up or down based on the daily student responses.

4) Types of methods used

15. My day is too busy to fully implement formative assessment in my classroom.
16. Using a varied approach to questioning is part of the formative assessment process.
17. Grades define student learning.
18. Lecture is the most effective way to teach high school students.
19. Documenting individual progress towards learning targets is a key factor in planning.

5) Overall teacher competencies about formative assessment

20. There is time for student reflection during the instructional day.
21. It is important to give a study guide for tests.
22. An assessment plan should be created before instruction begins.
23. Assessment should only be used as an accountability piece for reporting grades.
24. Differentiated instruction based on evidence of student learning is part of my daily planning.
25. Formative assessment is used daily in my classroom.

Survey Description

Before explaining the individual survey results, it is important to break down how the survey was used to determine growth on the continuum of understanding. Each teacher in this study began at a different level. Since the survey was developed purposefully and around specific school-wide needs and research, it was important to know how and where each
participant’s knowledge base started and ended. Even more duly important was why a teacher felt this way about formative assessment practice.

Since the purpose of this study was to investigate individual teacher’s understanding of formative assessment through investigating their growth over time, the pre- and post-survey results are given to each individual case study teacher and the results are not compared to one another. The survey was used to identify individual strengths and weaknesses, and then target professional development to assist with individual growth. To begin with, I will share each survey and then break down the results by teacher. Before sharing the survey results; however, it is important to mention the elements found on the survey.

**What Denotes a Change in Perception on the Survey**

For this study, a change in perception occurred when a teacher moved across the midline. For example, if a teacher moved from disagree to agree or vice versa this is a change in perception of understanding. The researcher determined this distinction as opinions can vary day to day between strongly disagree and disagree or strongly agree to agree and a change across a midline shows complete commitment to that particular statement. Since this body of research was focused on growth of perceived understanding over time, not quantitative statistics, it was important for the researcher to set specific parameters to determine whether teacher perception of understanding occurred one direction or another on the survey.

Information from the survey is documented in Tables 4, 5, 6, 7, 8, 9, and 10. The key is located at the bottom of each table denoting the meaning of symbols and colors found within the survey results. Complete survey results can be found in Appendix H.
Research Question Number 1

How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice?

With-in Case Analysis

Table 4

<table>
<thead>
<tr>
<th>Mr. Michael</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Accountability of teachers in the assessment process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I try to understand why my students succeed or fail on an assessment or activity.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. If students do poorly on an assessment, it is my responsibility to re-teach.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Assessment is a tool used only by the teacher.</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>4. The teacher should offer on-going and appropriate feedback to the students.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The teacher should reflect on multiple student data before drawing academic or social conclusions about a student’s progress.</td>
<td>S ← F</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Mr. Michael</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>II. Accountability of students in the assessment process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Students should be actively involved in setting learning criteria.</td>
<td>F → S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Students need opportunities to re-evaluate their understanding of the content.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Assessment is a tool used by the learner.</td>
<td>F → S</td>
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<tr>
<td>9. Students should modify or adapt their learning strategies to meet the requirements of the course/ classroom.</td>
<td>X</td>
<td></td>
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<tr>
<td>10. Students should ask questions and offer peer feedback during instruction.</td>
<td>S ← F</td>
<td></td>
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</tbody>
</table>

F = First Response  S = Second Response  X = No Change  Shading = Expected Response

Table 4 indicates several minor changes between agree and strongly agree; however, Mr. Michael showed no changes across the midline. Under the criteria stated earlier, there was no significant change in perception on this portion of the survey.

When Mr. Michael was observed in the classroom on his first observation in spring 2015, Prof. Smith noted that his classroom was one where students were using peer to peer feedback and assisting each other during the lesson. Mr. Michael maintained a checklist of skills that must be achieved and students assisted one another as they worked to master skills necessary to climb a rock wall (Appendix I). In addition, at the end of class, individual students reflected on their progress toward each new skill learned (or past skills if they were revisiting) and rated
themselves on their understanding. Mr. Michael compared student analysis of their understanding to his notes to see if and where there were discrepancies.

To align his formative assessment to his summative assessment and to scaffold his objectives, Mr. Michael used the smaller objectives of each type of rope knot to lead up to the larger objective of mastering the safety skills required to appropriately tie a rope and then climb the rock wall. Mr. Michael stated he aligned his checklist of skills to a rubric (Appendix J) that would then become the summative assessment used at the end of the unit. His formative assessments were the on-going check-points used throughout the class period that further aligned to his large assessment given at the very end of his unit. Mr. Michael stated this allowed him to know where his students were as they moved along on their own continuum of learning and offer continuous feedback along the way. With such a large number of students, having a checklist allowed him to quickly walk around and check on students and know from day-to-day which students were ready to move on and which students required extra support.

On the second visit in spring 2016, Prof. Smith noted this same type of observation. During this observation, students were working together to build teamwork skills. Again, Mr. Michael used a checklist to monitor learning and walked around the room listening during group conversations. Encouragement was heard from student to student and teacher to teacher (Appendix K).

Mr. Michael also stated, during the focus group, that students’ responsibility was not to adapt their learning, but for the teacher to adapt for the student. He noted that differentiated instruction was a way to meet student needs. In his classroom, he believed that all exercises or activities could be modified if a teacher maintains formative information on students and knows their students well enough to do so. The way in which Mr. Michael completed his survey also
supported his statement regarding students’ responsibility in the formative assessment process; however, the amount of responsibility students carried in the classroom somewhat contradicted his statement. Dr. Smith noted, while he was observing, that students assisted each other through peer feedback and supports. Students wrote down information and even reflected by scoring themselves on their individual attainment of the appropriate rope knot skills. The researcher noted that there might be a misunderstanding in what student responsibility looked like in a physical education classroom as students in both observations offered supports and took ownership of their learning during group and individual work times.

Mr. Michael stated in his follow-up interview that students should be allowed to help set learning criteria in the classroom. During his observation, he was viewed allowing students to manipulate the content by working together to solve problems and to assist one other. Each group was working to achieve the ultimate goal of reaching the top of the rock wall. Students within each group were at varying levels of rope tying understanding. Group leaders were charged with the responsibility of assisting and collaborating with their group partners to ensure everyone safely and securely navigated their way through the rope tying process.

Maintaining the integrity of the goals and objectives is the ultimate purpose of planning, but it must be done by also knowing students well enough to move at their level of understanding at times. “Aligning a curriculum to goals and objectives allows the teacher flexibility to do this because he can remediate or accelerate when needed,” Mr. Michael stated.

Through this whole school change and formative process, Mr. Michael created a course roadmap for all of his courses. He felt having this roadmap of objectives and goals gave him the flexibility to give students the freedom of choice in the activity within the confines of what needed to be accomplished in the course.
According to Table 5, there were no significant changes in perception on this portion of the survey, as Ms. Benson’s perceptions aligned with her delivery of instructional practice. The overall change for Ms. Benson occurred within her practice and was noted during observations and in the focus group.

Ms. Benson’s first 10 questions of the survey aligned to what was observed in the classroom by Dr. Cole. Ms. Benson stated in her interview that it is difficult in math for students to be involved in setting criteria. There were some instances where students had the option of which type of problem to choose, but she still believed that the teacher should set the criteria.

Ms. Benson stated that she believed that both the learner and the teacher should use assessment results; however, in the past the learner typically used it only to determine a final summative grade. Ms. Benson stated at the focus group that it is a definite paradigm shift for the school, as a whole, to re-teach itself how and when to involve the learner in the assessment process. She agreed with the group that the teacher should continue to offer on-going and
substantive feedback regarding learning, but many teachers are trying to figure out what this looks like for students. Are students used to receiving this type of feedback in the classroom beyond just receiving grades? Are they somewhat conditioned to look only to the final grade and think *this one is over now...so time to move on to the next one?* How can we, as teachers, break this learned pattern and keep moving forward?

In addition, one of the biggest questions that Ms. Benson and many other teachers were faced with was, “Just what kind of data do I use and how much should be collected before the test?” Ms. Benson checked homework every night and always gave feedback to her students the following day on their papers. She noted one of the concerns was ensuring she was able to follow up with students regarding their specific struggles on the previous night’s homework. Ms. Benson noted in one of her informal discussions with me that often students looked at the homework for the grade and would put it away. Sometimes their graded homework would be placed in their folders and sometimes it would be thrown in the trash as they left. She also discussed with Dr. Cole some strategies she could use to help give appropriate and useful feedback to students that would better involve them in the learning process.

The second time Dr. Cole observed, Ms. Benson had implemented a system where she tracked objectives (Appendix L) that were important to the unit of study and also used a system of highlighting to know which students she needed to speak with the following day. In this system of highlighting, where she would mark a certain color at the top of a student’s homework page, the color indicated the type of problem that needed to be addressed. For example, a pink highlight could indicate the student struggled with types of angles, and a purple highlight could indicate the student struggled with algebraic reasoning. This helped Ms. Benson group students for activities and/or visit individual students quickly during the class period.
The extra data information gave Ms. Benson the multiple data points she needed in order to know more specifically where students were in their learning. It became clear to her that tracking big idea objectives from the roadmap and having a way to “meet” with students was important in the accountability process. In addition, it allowed the feedback to become more intentional and for her to give students clear guidance on their misunderstandings before the summative assessment. Ms. Benson stated in a follow-up informal conversation that she was also able to more purposefully assign problems based on students’ overall mastery of objectives.

Table 6

<table>
<thead>
<tr>
<th>Mr. Aaron</th>
<th>Strongly Agree</th>
<th>Agree</th>
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<th>Disagree</th>
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Mr. Aaron stated in the focus group that many teachers in the school were concerned about the accountability of students in the assessment process. He believed this accountability is partly because many come from varied backgrounds and some take elective courses for different reasons. Sometimes their reasons for taking an elective course can impact their overall interest in the subject itself. As Mr. Aaron stated, “It’s not that teachers felt students should not be held accountable, it’s that concerns sometimes exist around how to make them accept the challenge of accountability.”
The perception survey results indicated that Mr. Aaron demonstrated that he has an understanding that teachers and students should have ownership in the formative assessment process, but is still developing in his delivery of the overall practice itself. Mr. Aaron is currently in the process of developing his course roadmap. On two separate occasions, Dr. Smith observed Mr. Aaron. He was observed using the Spanish textbook with corresponding activities, coupled with multiple questioning style methods during his lesson to determine student understanding. During the first observation, students were observed practicing their list of vocabulary words and Mr. Aaron was observed walking around the room listening for errors. Students were then asked to put the vocabulary words away and the lesson proceeded. The summative vocabulary test was scheduled for that upcoming Friday. Peer feedback was verbal and no formal tracking of objectives by the teacher or students was maintained, just an informal method of peer-quiz and check was utilized. Mr. Aaron stated since he was still developing his roadmap with objectives, he was relying on the objectives from the book. He currently uses more summative measures to analyze student learning, but did feel students could use the information gained from the peer-quiz activity to assess their own learning. The survey supports his validation of student-teacher accountability, and the process of formative practice is beginning to be observed through questioning and small group peer-quiz.

**Cross-Case Analysis**

**Research Question 1**

What is very interesting about the first two themes--(1) the accountability of teachers in the assessment process and (2) accountability of students in the assessment process--are the results of the survey. Due to the initial apprehension of the teachers school-wide about the accountability of students in their process of learning, the “Accountability of students…”
category was added. As Ms. Benson reported from her department, “The concerns are that many worry how they will hold students accountable if there are no grades and they have to adjust their own learning.” What was ironic about the survey was that the three teachers’ results indicated there was no significant change in perception; therefore, they understood the accountability of students and teachers. The question would be how to use students in the process. In addition, general competencies about formative assessment would also need to be fostered.

In two of the three cases, roadmaps with aligned objectives were set and in place. Mr. Michael and Ms. Benson seemed at ease with implementing a formal method of monitoring their objectives. To be able to monitor these objectives, the large plan for the year had to be in place. Mr. Aaron’s Spanish course is adopting a new textbook series in a year, and will change their overall course goals and objectives again soon. Since he is still in the developing stages of his roadmap plan, the leverage of flexibility is more difficult because one does not have the big picture plan to refer back to. Mr. Aaron acknowledges every one’s role in the process of formative assessment, but are still growing in how this translates into practice. Observable glimpses of formative practice is being utilized weekly, but overall must be brought together as a planned process for its effectiveness.

Again, just because one perceives to understand the concept of formative assessment, does not automatically articulate into the classroom practice itself. For these three teachers, the underlying factor that contributed to the overall effectiveness in the accountability of subjects, whether it be the teacher or the student, was the use of course aligned roadmaps. The two teachers with roadmaps in place were able to adjust materials and content easier than the teacher who was still developing his roadmap. All three teachers believed there should be shared accountability, but the ease of how it was shared depended on the roadmap that was in place.
Mr. Michael and Ms. Benson were able to track critical objectives and then better adjust their classroom practice to allow for student accountability during instruction by using student information to guide their practice. Mr. Aaron was beginning to implement some formative in-class strategies such as individual informal questioning and peer-quiz, but was not at a point to track individual mastery of objectives. He acknowledged the next big step in moving forward was to complete his roadmap, and this would better equip him with the necessary tools to support his formative checks of student understanding.

**Research Question Number 2**

How do teachers’ perceptions of their own understanding of formative assessment evolve over time?

**With-in Case Analysis**

**Table 7**

<table>
<thead>
<tr>
<th>Ms. Benson</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
<td>III. Student learning as a basis for use of formative assessment</td>
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<td>11. I pre-assess skill level or knowledge before beginning a unit or chapter.</td>
<td>F</td>
<td>S</td>
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<tr>
<td>12. A homework grade is important to understanding student learning</td>
<td></td>
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<tr>
<td>13. End of Chapter or Unit tests are the best methods for documenting learning</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>14. Whole group instruction works in high school because I can teach to the middle and work up or down based on the daily student responses</td>
<td>F</td>
<td>S</td>
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<td>16. My day is too busy to fully implement formative assessment in my classroom</td>
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<tr>
<td>Ms. Benson</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
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<tr>
<td>V. Overall teacher competencies about formative assessment</td>
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<tr>
<td>21. It is important to give a study guide for tests.</td>
<td></td>
<td></td>
<td>X</td>
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<td>22. An assessment plan should be created before instruction begins.</td>
<td>F</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Assessment should only be used as an accountability piece for reporting grades</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>24. Differentiated instruction based on evidence of student learning is part of my daily planning</td>
<td>F</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Formative assessment is used daily in my classroom</td>
<td>F</td>
<td>S</td>
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</tr>
</tbody>
</table>

F = First Response  S = Second Response  X = No Change  Shading = Expected Response  Change in Response  Midline

Ms. Benson’s perception of her understanding of formative assessment developed in two themes: III) Students learning as a basis for use of formative assessment and V) Overall teacher
competencies about formative assessment. To begin, I would like to address how Ms. Benson’s use of pre-assessment changed between the pre- and post-survey submissions. During her interview, Ms. Benson discussed how the concept of pre-post assessment had been something she had been aware of but did not make part of her daily practice. She often used bellringers as part of her class procedures, but this was used more as a quick means to begin class versus a consistent check of understanding. She acknowledged the potential benefits of implementing the pre-post practice but was unsure how to directly use this as part of her daily instructional methods. Upon her first observation by Dr. Cole, Ms. Benson was observed using bell work as part of her classroom procedures. Students would have problems to complete and as they would complete these problems, Ms. Benson would walk around the room to return homework and answer questions.

Ms. Benson stated to Dr. Cole in her post observation follow-up discussion and her interview with the researcher that she wanted formative assessment to be an everyday element of her instruction. Her main goal was for formative assessment to be used naturally, not as an additive, but as a supplement to something that was already working. With this in mind, Dr. Cole and Ms. Benson discussed the possibility of making the bellwork and/or homework piece a part of the formative check for understanding. Ms. Benson later met with me and together we brainstormed for ideas on how this could be (1) manageable and (2) useable information to contribute to the overall picture of where students were in their continuum of learning.

Ms. Benson came up with a highlighting system. This highlighting system was a method that used highlighter colors marked on the top of homework papers so when she walked around during the bellwork, Ms. Benson was able to hone in on specific weak areas a student may have. For example, each color indicated a specific skill. This skill was aligned to her roadmap of
required objectives. In the past, she only put the number wrong at the top of a paper and was unable to quickly assess what she needed to address with individual students. With over 80 students on her caseload, it was important to her to be able to know which skills they met and which skills they still needed to attain. In addition, she maintained a checklist containing major objectives and tracked when students met each one.

In spring of 2016, Dr. Cole re-observed Ms. Benson, who stated this system was beginning to work for her. She also had completed some additional real time checks for understanding and used her checklist of objectives during class time. As students demonstrated understanding of an objective, she would check it off on her checklist. This change in practice also correlates with the change represented on the survey. In addition, Ms. Benson acknowledged during the focus group that pre-assessment has a purpose during instruction, but the initial establishment of one’s system of when and how to check for understanding can be the most challenging. It was most critical for Ms. Benson to use her course roadmap of objectives to determine the most critical points of instruction, and to use these areas for times to ask questions, create bellringers, and know when misunderstanding typically took place during a class period.

In the survey, Ms. Benson demonstrated a change in her understanding that “whole group instruction in high school works because I can teach to the middle and work up or down based on daily student responses.” This appeared to contradict what Ms. Benson had been demonstrating in class and from our previous conversations. In the focus group, Ms. Benson stated, “You can use differentiated instruction to identify the needs of the individual students in the classroom. So the formative assessment is definitely a piece of data that ties everything together.”

Ms. Benson stated that she felt the question was asking her about differentiated instruction. Since differentiating small groups is one of the techniques that she had been using in
taking information gained through whole class real-time checks, she believed this question was geared towards taking information and planning for groups through a differentiated process. In this instance, the question was more of a problem for her, but upon further asking questions, Ms. Benson was able to clarify her understanding of formative assessment and how she uses the information to plan for instruction for not only the whole group but for that of individuals and groups of students as well.

Table 8

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<tr>
<th>Mr. Michael</th>
<th>Strongly Agree</th>
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<td>III. Student learning as a basis for use of formative assessment</td>
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<td>15. My day is too busy to truly implement formative assessment in my classroom.</td>
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Mr. Michael’s survey indicated two areas of significant change in perception by movement across the midline. All other areas remained constant between the pre- and post-survey assessments. Mr. Michael stated that in his area of growth he needed to focus on growing in the area of student learning as a basis for use of formative assessment. Initially, Mr. Michael would teach to the whole group and felt that teaching to the middle allowed him to meet all students and he could adjust from there. Over time, he realized that this method is not the most appropriate. Mr. Michael began using more differentiated methods by tracking student achievement of set objectives, adjusting instruction during class, leveling his instruction during class, and creating learning opportunities that allowed students to work at their level. He stated in the focus group that, “To me assessment is where I am, and where they are at, so that we are on the same page. I can do it informally, formally, I mean, either way, but it’s mostly just the
knowledge of where I am at where they are at and where I can go from there.” Keeping the students and the teacher on the same page can make differentiation easier and then allow the teacher to instruct at varying levels to meet the learner where they are. Initially, Mr. Michael was teaching to the middle, but through this process, realized the value of using his assessments to meet the learner where they are. Instead of making the learner come to him, he began coming to the learner--which correlated with his change in perception on the survey.

Another area of growth for Mr. Michael was the use of pre-assessments to assist gauging instruction. Mr. Michael believed he was good at assessing real time during class, but often did not pre-assess learning to gauge where the students were before beginning a unit or area of study. During the rope climbing unit, for example, he would begin by assessing students on their basic knowledge of how to make various rope knots. For students who demonstrated the necessary skills to tie the beginning kinds of ropes, he would move them on and/or in some cases, allow them to be the group leader to support the other students. He stated in an informal conversation with me that if a student demonstrates the necessary knowledge or skills, they should not have to continue demonstrating these same kinds of skills over and over again. As he began to see the effectiveness of adjusting his approaches to learning during instruction, Mr. Michael stated he began to add some pre-assessments, such as bellringers and exit tickets, to help determine how to begin instruction or follow up a lesson based on student needs.
The biggest growth over time for Mr. Aaron was in his overall competencies about formative assessment. Mr. Aaron changed his perception from Strongly Disagree to Strongly Agree in the following two areas: (1) differentiated instruction based on evidence of student learning is part of my daily planning and (2) formative assessment is used in his classroom daily.

In the focus group, Mr. Aaron stated, “It’s engagement, I consider assessment engagement, it’s ongoing, it’s one way to keep the students engaged, helps the classroom management and it gives me a sense of where the students are and it gives them a sense of where they are and so it’s kind of a three-pronged approach, I guess you would say of assessment.” Initially, he felt assessment was more of a paper-pencil thing where students had to take some sort of test to show their understanding of the concept. “Before, it was more of a formal-type thing, now it’s like a part of the everyday classroom activity. You assess as you go and make assessments as needed.”

In addition, Mr. Aaron stated during the focus group, “It’s been a long-standing tradition that the sum of the tests give you the information and where the students stand even before they go to the next level or anything like that. So, I would say that when we look back on student records we would say that summative tests is what we base everything on in day-to-day dealings with the students. I would say now the formative assessments would probably be a more fair assessment for students.” Originally, summative assessments were some of the main assessments.
used in Mr. Aaron’s classroom. Now, he uses questions and some additional formative informal methods to check for understanding. He acknowledged the fact in our interview that it was important to differentiate questions for students, as well as, concepts in the classroom. He stated knowing your students and engaging them in the content through appropriate activities aligned to your objectives was an important goal of his. He also stated that he was still working on fully developing his roadmap with course and unit objectives, but sees the importance of differentiation and use of formative assessment and daily planning.

It is difficult to dive deeper than the surface level questioning without the roadmap solidly in place, but Mr. Aaron can articulate his understanding of what to do and is beginning to determine his plan for moving forward as his roadmap develops. He has some formative instructional strategies in place and used these strategies to check on understanding.

Cross-Case Analysis

Research Question 2

All three teachers indicated the need to know your students. A teacher knows their students by the information they keep, like their attainment of objectives as Mr. Michael stated during the focus group. He went on to state, “He now puts more emphasis on the objective of the lesson versus the activity of the lesson so students understand the purpose of what they are doing.”

All three teachers indicated that documenting where students are in their learning can be difficult and hard to manage at times. Mr. Aaron stated in the focus group, “Everyone is more focused on the student and on their growth, so it went from what the teacher had to produce every day as far as a lesson to what the student is taking and where do we need to make the adjustments to make this happen.” Mr. Aaron stated, “In a year, we’ve moved pretty far. It’s
always a struggle to find out what works and what doesn’t work in a class but were starting to figure it out. Some people want a quick fix and don’t understand why one strategy works for one teacher and not for them. I think we are starting to figure out what formative assessment looks like for us and making the changes in our classrooms to help students.” Ms. Benson stated, “We are beginning to turn the corner a little bit here and that if you put that time into formative assessment, you can really save yourself a lot of frustration and a lot of time just re-teaching, re-teaching, re-teaching and then still getting to the end and you have this whole group that still is not mastered the objectives you have set forth and I think people have realized that it’s good to streamline what we are doing so class time is not missed on activities that are not necessary for student learning.”

“If we all work together and are supported from our leadership and in our departments, we can make it through change and implementation of formative assessment in the classroom,” stated Mr. Michael. Ms. Benson also stated her department decided to take one course and work together to develop a formative system that checked for understanding and supported the goals and objectives. Course partners implemented different strategies in their classroom and met together during department meetings to share out strengths and weaknesses of the strategies. Ms. Benson felt her challenge was to determine the types of data that was easiest to maintain and allowed her to provide quick and appropriate feedback to her students. Ms. Benson differentiates from her data in small groups or individually. Before, she felt differentiation was a little more difficult because it was hard to remember what specific skills a student was deficient in when you had multiple classes in a day. Mr. Michael supported this by stating that, “Tracking aligned objectives when you have large numbers of students allows you to more specifically pinpoint a
student’s strengths and weaknesses.” Mr. Aaron went on to acknowledge that it is the practical piece that can be difficult.

It, again, became evident that having a roadmap in place was a critical factor in differentiation. No matter how a teacher’s growth evolved, the depth at which they were able to grow depended on the big picture roadmap plan they had in place. To align objectives and differentiate for student needs, a teacher must have specific, overall direction. All three teacher participants’ understanding developed, but the level of impact that was achieved in the classroom was dependent upon the roadmap that was in place in the planning and preparation stages.

**Research Question Number 3**

What supports exist to help teachers implement formative assessment at the high school level?

**With-in Case Analysis**

Mr. Michael attended a workshop on formative assessment by Dr. Dylan Wiliam in spring 2015 that supported his endeavors in the area of formative assessment. In addition, he wrote his Master’s thesis on formative assessment and worked closely with me to gain additional insights on this topic.

Initially, he realized the importance of creating his course roadmaps with full objectives and an assessment system. Mr. Michael met with Dr. Smith and me for extra support in this area. Once his roadmap was complete, he became a teacher leader in the building and support person for many teachers working to create a formative assessment system in the classroom. As a teacher leader, he was charged with the responsibility of assisting others with developing their roadmaps and corresponding assessment systems. He spent numerous hours after school helping teachers to grow in their understanding of the formative assessment process.
Ms. Benson worked alongside Dr. Cole and me to develop her real time formative system. She identified, through the help of the survey, and her own self-reflection during the evaluation process, that finding a way to successfully use data on an on-going basis not only as an additive but a supplement to her instruction, was her area of need. Ms. Benson was given additional support through observations and feedback regarding the types of questions asked during instruction and how these questions aligned to her overall lesson objectives.

Together, Ms. Benson and I met on multiple occasions to reflect on how her system of tracking students’ attainment of objectives, while being able to offer feedback in class, was working for her. Through this discussion, additional suggestions and feedback were given. Over time, Ms. Benson developed her own system of monitoring student learning which appears to be working for her geometry class. Her next attempt is to apply this system to other courses.

Table 10

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<tr>
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<td><strong>IV. Types of methods used</strong></td>
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<td>16. Using a varied approach to questioning is part of the formative assessment process.</td>
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<td>17. Grades define student learning</td>
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<td>18. Documenting individual progress towards learning targets is a key factor in planning</td>
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<td>19. There is time for student reflection during the instructional day</td>
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Although Mr. Aaron grew in his understanding of overall competencies about formative assessment, he continued to grow in his understanding of formative assessment with additional supports in student learning as a basis of formative assessment and the types of methods used in
formative assessment. According to the perception survey, Mr. Aaron defines student learning through use of grades but in his focus group he stated that, “It’s been a long-standing tradition that the sum of the test gives you the information and where the students stand even before they go to the next level or anything like that, so I would say that when we look back on student records we would say that summative tests are what we base everything on in day-to-day dealings with the students.” Since his last observation, Mr. Aaron implemented a system to track some of the global learnings of students, such as questions, attendance issues, and real-time observations. He stated in the focus group that he kept this log to refer to throughout the year (Appendix M). Mr. Aaron stated that the formative assessments would probably be a fairer assessment of his students.

When following up with Mr. Aaron, he is still somewhat unclear on how the summative assessments fit into the formative assessment process. During his observations, students participated in peer-quiz and some questioning opportunities, but Mr. Aaron still often relies on summative measures for assessment. Continuing to offer additional supports in this area would assist Mr. Aaron’s understanding and further enhance the effectiveness of it in his classroom instruction.

Cross-Case Analysis

Research Question 3

All three teachers were at varying levels of understanding, but in reality all three teachers started at different levels of understanding at the onset of this research. It became clear that having a pre-set roadmap of objectives was an important element of an effective formative culture in a classroom. The use of a pre-set roadmap was the single greatest factor affecting the growth of the teachers and how it impacted the use of formative assessment in their instruction.
According to the research, setting clear learning targets allowed a student the means to set goals and to achieve deeper understanding. Assessment is an on-going process, not viewed as a one-time shot. In addition, it is embedded as part of one’s instruction (Shephard, 2000; Hosp, 2012; Hosp & Ardoin, 2008). The ability to adjust instruction comes when one has a clear path to do so. The path itself or the roadmap was the most important piece of all three teachers’ journey in their quest to understand and implement formative assessment. To be able to implement formative assessment effectively, the teacher had to have the overall plan for the course in place for the flexibility and adjustments for student learning to take place.

Professional development must occur where the teachers’ needs indicate. Professional development is not a one-size-fits-all case. In the focus group, all three teachers indicated that there was such a difference in all the classes that unless you taught the same thing, it is hard to tell other teachers exactly what works and does not work because it will not necessarily translate the same. Ms. Benson’s and Mr. Michael’s perception of their understanding of formative assessment aligned with the observable practice in the classroom. They both had effective roadmaps with objectives in place at the beginning of this study, which both felt enabled them some flexibility in the implementation of formative assessment in the classroom. Mr. Aaron’s perception of his understanding of formative assessment aligned to his comments in the interview and focus group, but without the adoption of a clear roadmap, was still in the beginning stages of implementation of formative practice in the classroom. He utilized formative strategies during instruction such as questioning and small group pairing, but the alignment to a roadmap was a crucial element needed to further support learning in the classroom.

All three stated they had had multiple professional development opportunities regarding the background and overall competencies of formative assessment, and now it was time to break
into smaller groups and hone in on specifics with departments. According to Yao (2015), a teacher’s perception and their classroom practice may not be fully aligned. It is important to identify teachers’ perceived understandings, and further compare these to the actual practice being utilized to better support teachers’ individual strengths and weaknesses.

**Summary**

The results from my analysis are thorough and account for the data obtained for the multiple data sources used during this study. Although the results of the focus groups provided insight into how all three teachers perceive formative assessment, it was the survey itself at the initial start of the process that allowed me to better understand where each teacher was beginning. The results from my analysis of the formative assessment perception survey, coupled with teacher interviews, focus groups, and analysis of artifacts clearly support the idea that teacher perception of formative assessment positively changed over time. Offering appropriate professional development supports, aligned to specific teacher needs, can strengthen a teacher’s overall growth in their understanding of formative assessment. Being able to identify these needs will allow a school district to support and further document progress towards one’s professional growth goals. Implications for this study are further discussed in Chapter V.
CHAPTER V

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

The key purpose of this qualitative case study was to gain an understanding of classroom teachers’ perceptions of the process and impact of formative assessment on classroom instruction in a secondary school. The study was designed to obtain information about how teachers view formative assessment as part of their everyday planning and preparation as well as sought to determine whether or not there was a correlation between teachers’ perceived understanding of formative assessment and their implementation of formative assessment in the classroom. The study also sought to uncover whether a teacher’s perceived understanding of formative assessment changes over time when appropriate supports are put in place, tailored to individual teacher’s strengths and weaknesses.

The main question, therefore, to which answers were sought in this study, was whether teachers’ perceived understanding of formative assessment impacts their own classroom instruction.

To accomplish this, I wanted to learn through the eyes and journey of three teachers representing different disciplines and experience with high school education. Beginning with the themes that evolved during the development of the school-wide survey, and using focused interviews, analysis of artifacts collected from these features, and analysis and observation obtained from Drs. Smith and Cole. I hoped to gain an understanding of what the driving force is behind how teachers’ perceive their understanding of formative assessment and how this perception translates into actual instruction in the classroom. The results of this study do not claim to generalize beyond three teacher participants of this study, although the results regarding
how teachers use formative assessment and its impact on the instructional practice might have implications for other interested parties aside from these participants and me.

The data gathered from survey, observations, artifacts, and focused interviews were used to answer the following questions:

1) How do teachers’ perceptions of their own understanding of formative assessment affect their instructional practice?

2) How do teachers’ perceptions of their own understanding of formative assessment evolve over time?

3) What supports exist to help teachers implement formative assessment at the high school level?

**Discussion of Findings**

Findings of this study are based on a continuum of growth for each teacher. All three participants in this case study started at a different place; therefore, will continue to grow at a different pace. The study focused on growth towards their understanding of formative assessment and how each teacher’s professional development supports were adapted based on individual needs.

**Student Learning as a basis of use of formative assessment**

The results of the focus groups indicate that the participants were using formative assessment in their classrooms for a variety of reasons. All three participants were at different levels of understanding regarding how to use information gained from formative assessment and how to plan for future instruction either for whole group and/or individuals. Mr. Michael was fully tracking student achievement of objectives in all of his classes. Ms. Benson focused developing her formative assessment system in the geometry classroom and believed once she
was comfortable doing so could then expand this system into the other courses. She developed a tracking system to monitor student achievement of objectives. This system enabled her to better monitor student progress and give timely feedback. Mr. Aaron used questioning and felt he was able to adjust his instruction globally to the class. After both observations were completed, Mr. Aaron began implementing a system to monitor learning using a clipboard where he jotted notes down as needed about students. These notes would range from information about homework, questions they had in class, or something he observed that he did not want to forget. He had only been using this system for a few months before our second focus group. He believed that it was giving him some additional information about students, but still was not the system he wanted to have in place.

All three participants agreed that formative assessment was a wise and effective tool to understand student learning, but were at different places in determining how to successfully track the appropriate data on student achievement of the set outcomes. Moving forward, professional development would be focused in the area highlighted in the survey as a weakness but also determined through discussion with the teacher. The feelings and struggles experienced by the study participants corresponded with professional literature that formative assessment is successful in classrooms, but there is little professional literature on teacher perception regarding the process and how these feelings carry over into their instructional practice.

**Adapting Student Learning**

Just as Ms. Benson said, “The longer you teach, the more you are able to look like you are doing it right.” This high school did not want formative assessment to be one of those initiatives that was in one day and out the other. Ms. Benson knew this and quickly realized the importance of adapting student learning through information obtained from formative
assessment. She shared how she tracked student achievement of objectives in her system of meeting with individual students who did not meet the set target. One system she implemented was using highlighters to highlight specific problems that students missed. This allowed her, when walking around the room, to quickly know which students needed help in specific areas.

Other times, the material was adapted to meet curriculum requirements. Students are given pre- post-tests, and if it appears that the majority of students are missing specific questions, these questions are retaught and holes in the curriculum are re-addressed. Moving beyond the mindset that grades themselves are important in high school, and understanding the learning behind each grade is the main goal. Formative assessment goes beyond the grade and looks at the learner. Ms. Benson uses a holistic picture of her students to fully understand where they are, and identifies strengths and weaknesses in their learning.

All three teachers in the focus group stated the reason they are implementing formative assessment was because they want to help students. It is easy to make it appear like you are doing something or just working to make something fit, but if you really want to make formative assessment work, the teacher has to be prepared to put time and work into the process. Student learning is a direct result of student accountability. When students are involved in the process of their learning, they become vested in what they are doing, and the experience of learning means being focused on the goals and objectives like the teacher.

The group began to discuss in their focus group that focusing solely on student achievement rather than student learning can produce learning solely for the sake of the grade. They all acknowledged that it is easy to go backwards and fall into old habits of teaching day-to-day but if you use appropriate questioning techniques and strategies to check on student learning, students will want to learn because they will understand where they are in the process.
Adoption of Roadmaps

A very critical element of the formative assessment process that stood out in all three cases was the use of roadmaps in planning and preparation. Having an articulated plan with specific objectives is an important element when planning for students. Stiggins (1995) stated that when one is assessment literate, he or she should start their planning with a clear purpose for the assessment and focus instruction on achievement of set learning targets. Being able to move from the big picture goals to the incremental units of study that support it was a glaring factor in the overall success rate of implementing formative assessment in the classroom. A teacher has to know what their essential goals are before they can assess them. The two teachers who had successful roadmaps in place had an easier time implementing formative strategies into the classroom and further determining which objectives needed to be tracked. Moving forward, this is an important piece to stress to other districts who are working to support their teachers in creating a formative culture within their school.

Overall Teacher Competencies

The results from analysis of the focus groups and post survey indicated that all three teachers’ perceptions of formative assessment changed over time. This was probably the most interesting research question. Ms. Benson stated, and Mr. Michael and Mr. Aaron agreed with a laugh, that the driving force behind formative assessment was the Curriculum Director and implementation of the new teacher evaluation system. That being said, it was out of this evaluation system that everyone was then pushed into implementing formative assessment. Out of this school-wide initiative came a slow buy-in from teachers in a formative assessment process.
Mr. Aaron stated, “I think just speaking from our department, if you put in the effort and you try to implement (formative) assessment, you’ve seen the positives out of everything we’ve tried if you’ve not really tried, oh I have to do this, then know you would not probably see it as a negative if you’ve tried it. I have seen a good positive move forward in their teaching from it.” He went on to state that it was the initial step forward that made the difference. Many were afraid to take it, and waited for others to try formative assessment and see how it worked or didn’t work. Once they tried it, their attitude toward it began to change.

Mr. Michael stated, “In my department, initially formative assessment appeared like more work and more challenging, but I think once teachers were sold into it and some actually bought into it really early, and actually some (teachers) are still being sold on it. Once they found that there is something out there that’s positive about it, it began to streamline their teaching.” Mr. Aaron stated he is beginning to see a positive change in teachers’ attitudes toward use of formative assessment in the classroom. As they begin to understand more about what it is, they began to be more comfortable with using it in their classroom.

Mr. Michael stated that he really believes he can now put a name to some of the formal things he is doing that helps students. Ms. Benson agreed as she stated, “Now it’s not just calling a practice formative assessment but actually looking at the information to make appropriate changes in instruction or planning.” Mr. Aaron echoed this by saying, “It was more of a formal-type thing, now it’s like a part of the everyday classroom activity. You assess as you go and make assessments as needed. It’s kind of already embedded in what I’m doing, but it is now more clearly defined on how it’s done and how it’s helping students.” Ironically, this parallels with his survey and the growth obtained regarding his overall competencies about formative assessment. Mr. Aaron initially believed he did not use any formative assessment and saw it
more as an additive to what he was doing versus a support to what he was doing. As his perceptions began to change, and he began using questioning during class, he saw a decrease in behaviors and an increase in engagement. Seeing for himself the benefits of informal, formative assessment, his perception of it began to become more positive and Mr. Aaron began using it more frequently in the classroom. Mr. Aaron’s survey echoed his overall perception of formative assessment. First, to be able to identify when to use it before, during, and after instruction, and then determining how to best decipher the information gained from the results.

School-Wide Professional Development

According to Fullan, Cuttress, & Kilcher (2005), the change process should be about continuous improvement. As Lincoln High School was working to overcome the boundaries of a system change with the implementation of formative system, they were also working to ensure teachers were supported and given ownership both through school-wide and individual supports.

Each teacher initially came into this study at different places in their understanding of formative assessment. It is important to note that supports for professional development were given both globally and individually. The three case study teachers discussed the need for school-wide supports for their departments and resources to meet specific course means. The participants also shared resources like checklists, rubrics, and other ideas between each other. Successful change involves learning from each other and building upon one another’s strengths. There is power in numbers and the three teachers discussed the need to have more opportunities to share our successes with one another. This supports the claim by Fullan, Cuttress, & Kilcher (2005) that “successful change involves learning during implementation. One of the most powerful drivers of change involves learning from peers, especially those who are further along in implementing new ideas” (p. 55).
All three teachers agreed that regular trainings on what formative assessment looks like would not be effective at this point in our school-wide implementation process. Teachers understand the accountability of students and teachers in the assessment process, and we had offered trainings in the past on what formative assessment is, and it was time to move forward to begin to add “more meat on the bone,” said Mr. Michael. Teachers are ready to see how data can be used to move whole classes forward. Continuing to help teachers develop their course roadmaps and to align their formative assessment system to these roadmaps will enable them to move forward in the assessment system as a whole. This finding further supports Mertler’s (2005) recommendation that secondary teachers should have access to on-going assessment training as it relates to any district’s school-wide professional development plan. In addition, administration should provide opportunities for teachers to improve and apply their skills and understandings. The three teachers in this case study felt supported through the formative change process, while also were given access to the professional development needed to grow. Mertler (2005) went on to state that improving assessment literacy should be the shared responsibility of all stakeholders from administrators to teachers.

In this study, the pre-post formative assessment survey allowed me to look at the school system as a whole and to then break it down by individual, if needed. Knowing where a school is in their understanding of formative assessment, was a springboard to then hone in on the individualized professional development.

**Individualized Professional Development**

Individual growth occurs when one is able to build capacity within a school to sustain the practice well-beyond the implementation stages. All three teachers admitted that front-end training was important, on-going school-wide training was essential, but the individual training
was the most beneficial. Fullan (2001) stated that whole systems working together can increase the capacity of the entire group. Each teacher in this study exhibited their own set of strengths and areas for improvement. Identifying these areas through use of the formative survey would greatly support the capacity for sustainable change and enable the individual teacher to grow in their instructional area as seen as a result of this study.

Ms. Benson’s focus was on using the data and information gained from formative assessment to plan for future instruction. Giving her specific tools and ideas around the data collection process allowed her to grow her knowledge and skills in this area. In her observations, it was apparent that she understood how to obtain information from students, but knowing exactly when and how to use it was an area in which she needed to grow. Ms. Benson met with me and others in her department to gain access to strategies in regard to using formative assessment as a means to base student learning. I shared the book, *Embedding Formative Assessment Practical Techniques for K-12 Classrooms*, (Wiliam & Leahy, 2015) with her. Together, we completed a book study based on practical techniques and formulated a plan. Knowing that each teacher has their own style and method, Ms. Benson implemented various strategies to assist her in the classroom. She focused on one class, Geometry, and from there gained confidence and understanding to continue applying techniques to additional courses.

Mr. Aaron’s focus was on setting clearer objectives in his roadmap to better differentiate his questions during class and to adjust his curriculum when needed. Mr. Aaron and I met on multiple occasions to discuss changes and additions to his roadmap. Together, we determined this was the best step in moving forward in his formative assessment process. He began to implement bellringers as part of the students beginning of class work. This allowed him to gauge where they were to determine if they were ready to move forward that day. In addition, Mr.
Aaron would use exit tickets and questioning during instruction to determine if students were meeting his objectives. Even though his roadmap of objectives was still being altered, Mr. Aaron began utilizing formative strategies before, during, and after instruction to help him gauge student understanding. The pre-post-formative assessment perception survey clearly demonstrated growth in his understanding of overall teacher competencies.

**Implications**

**Teacher Reflection on Practice**

Domain four component A of the Charlotte Danielson Professional Practice a Framework (Danielson, 2007) is about reflection on teaching. The formative assessment perception survey allowed all three case study teachers an opportunity to reflect on where they were and to determine a path, with assistance, on where they were headed. To be able to improve or grow, one must know where they are. “Through supportive and deep questioning, mentors, coaches, and supervisors can help teachers acquire and develop the skill of reflecting on teaching. Over time, this way of thinking and analyzing instruction through the lens of student learning becomes a habit of mind, which in turn leads to improved teaching and learning” (Danielson, 2009, p. 378).

The survey gives, not only schools as a whole, the individual teacher’s a springboard or beginning point to where their staffs understanding of formative assessment lies. It is important to know that reflection can only take place if results from the survey are used appropriately and timely. These results must be shared and fully discussed to ensure findings and next steps are appropriate. Having a way to measure growth over time allows a school to determine if their professional development is effective.
School Districts

The results of this study also have implications for other school districts. Study participants need a starting point. One of the most important features that came out of this study was having a way to measure whether or not one has achieved a goal. The goal of this study was to align a teacher’s perceived understanding to their application of formative assessment in the classroom. A school needs a way to hone in on areas of strength and weakness. The school in this study used school-wide concerns, comments, and questions and aligned these to what formative assessment should look like within a school. A school-wide survey was developed, and through this survey, I was able to target areas of immediate focus.

Sharing this survey, and the process in which the survey was developed, will enable other school districts to have the appropriate tools to give them baseline or foundational information to springboard conversations regarding formative assessment within their district. School districts looking for ways to implement formative assessment across their district should consider sharing formative tools like the survey used in the study and the process of how one can begin to develop their own formative survey tool that reflects their school and needs.

Study participants were asked if the formative survey information results in the quality source of reflective information. One participant discussed how the class in which he teaches impacts his overall perceptions. He believed having the survey and comparing the pre-and post-results allowed him the opportunity to reflect on where he started and where he was on his journey to understanding formative assessment. He said, “Sometimes you get caught up in the moment and seeing where you’ve been helps you understand the journey” (M. Michael, personal communication, May 2016). Having a survey tool in place that opens conversations and allows
for focused school-wide professional development, is a strong addition to any school district looking to implement a formative assessment system.

**Individualized Professional Growth**

The results of this study also have implications for individual teachers. Study participants were able to identify resources needed to implement formative assessment within the classroom. Realizing that each teacher is beginning at a different point in their understanding of formative assessment, it is important to identify what supports are in place to help each teacher implement a rigorous formative assessment process within their classroom. As used in this case study, the formative survey could also be used on an individual basis to help identify individual strengths and weaknesses in understanding of the formative process. Having this information will allow districts to better support their teachers as they grow professionally.

**State and policy educational initiatives**

Finally, study results have implications for state policy and educational initiatives. Study participants were heavily involved in the Danielson Framework for Teaching (Danielson, 2007). As stated in Chapter 1, formative assessment is the heart and soul of domain one, also known as planning and practice. As teachers are held accountable to a state-mandated evaluation system that includes a formative assessment system, it is important for teachers to have up-to-date access to information regarding the formative assessment process.

Although the participants original desire for professional development on formative assessment stemmed from the teacher evaluation system state initiative and a lack of understanding in the area of formative assessment, it also highlighted the lack of support provided at the state level throughout this process. Due to (a) lack of knowledge about the
initiative itself and (b) focus placed on ratings of teachers versus the pedagogy in the framework. It is important that teachers are given the necessary tools to remediate this situation.

Professional development opportunities focused on the use of formative assessment need to be implemented at the state and local level to discuss initiatives in-depth with all teachers at all levels. Often times, the regional offices of education are the best resources to roll out such large-scale workshops. Sharing information obtained in this study would further schools and regions as they developed or begin to develop their formative assessment system.

**Recommendations**

**Data sources**

The data for this study consisted of focused interviews, analysis of artifacts collected from these features, analysis and observation obtained from Drs. Smith and Cole, and finally analysis of pre- post-formative survey information. In future studies, I believe, additional focus groups would be more beneficial than structured individual interviews. Using additional focus groups, I believe would provide deeper descriptions of the areas of said research. Each participant, while speaking in the focus group, can discuss the questions and respond to one another’s answers to each question, often building off of what one another has said. Since the use of focus groups can allow for responses to trigger thoughts and emotions of others within the group, this could have created a deeper understanding of the interview questions and allowed for more opportunities for each to share their thoughts.

**Duration of the study**

If time would have allowed, it would be important to complete a follow-up study, perhaps over an additional two school years. As teachers continue to become more accepting of formative assessment, the practice and use of formative assessment occurred more frequently.
Continuing focus groups periodically throughout the school year and use of the formative assessment perception survey, at least one time per year, would allow me to better determine teachers’ understanding and further acceptance of the formative assessment practice. A comparison of the analysis of the survey and focus groups over time would cause additional questions to potentially arise: Are conversations in focus groups focused on teacher learning or student learning? Have teachers developed in their overall competencies to a point where there is shift in focus of conversation? Are there still teachers in the development stage of roadmap design? Is the district providing adequate school-wide and personal professional development? The data suggested that as the teacher gained more familiarity with use of formative assessment, their overall perception of formative assessment increased. A study conducted over several years might provide insight into how achievement is affected by positive teacher perception of the formative assessment practice. The study would also help to determine whether professional development geared toward whole school and individual development was assisting teachers with their formative practice.

In addition, a longer study could aid in fostering on-going individual and whole group reflection and collaboration. This impact could be compared throughout the length of this study. A longitudinal study also could allow time for conversations between teachers about what is working in classrooms in terms of formative methods, data collection, use of data, and other conversations pertinent to this study. Due to time constraints, many of these conversations were limited in nature and could be fostered if additional time was allotted.

**Additional Settings**

Finally, in a follow-up study, it would be important to expand the case studies to additional settings beyond one rural high school. Often, nuances occur at one particular school
that can only be situated within that school. Being able to complete the same study at an
additional setting following the journey of other teachers being given similar supports would
help solidify the reliability of the formative assessment perception survey and strengthen the
studies ability to generalize findings across other settings beyond this particular high school.
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APPENDICES
Professional Growth Plan

“Instructional Effectiveness Plan”

Directions: Using the targeted goals identified on the self-reflection, create a Professional Growth Plan. Based upon his/her own self-assessment, the teacher will draft 2-3 professional growth goals for the year. The teacher will list these goals on the Professional Growth Plan ahead of time and should be brought to the Beginning of the Cycle Conference. These targeted goals will translate into that teacher’s Professional Growth Plan. This plan will then be discussed and finalized during the Beginning of the Cycle Conference. The Professional Growth Plan should be revisited and revised during the Mid-Year Data Review and/or throughout the school year with Department Chairperson approval.

Planning and Preparation

Classroom Environment

Instruction

Professional Responsibilities

Teacher Name________________________________________

Date ________________________________

Use additional pages if necessary. This is a personal plan created by the Teacher with input from the Evaluator. It is confidential and need not be discussed with anyone but the Evaluator and the Department Chairperson. The Evaluator and the Department Chairperson will discuss the plan with the person involved and then monitor the plan through observations and conferences. The Teacher can make changes to their Professional Growth Plan with approval from the Department Chairperson. The Department Chairperson will give a copy to the Evaluator.
Professional Growth Plan with approval from the Department Chairperson. The Department Chairperson will give a copy to the Evaluator.

<table>
<thead>
<tr>
<th>Targeted Goals</th>
<th>Means of Reaching the Target Goals including Procedures and Activities</th>
<th>Resources Needed</th>
<th>Means of Evaluation (How the goal will be measured)</th>
</tr>
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<tbody>
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<td>Goal 1</td>
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<td>Goal 2</td>
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<td>Goal 3</td>
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<tr>
<td>Goal 4</td>
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</tbody>
</table>

Signatures: ____________________________ (Teacher) ____________________________ (Department Chairperson)

Date: ____________________________, 20 ____                                      ____________________________ (Evaluator)

Modification/Change to the Professional Growth Plan Date and Initials ____________________________ (Initials of Department Chairperson and Teacher required denoting agreement and approval)
High School

Definition of Formative Assessment

Formative assessment is an on-going process that collects evidence of student learning from informal and formal methods, and provides information to both the teacher and the student. It involves two-way communication between the student and teacher, and encourages modification of teacher practice to meet the needs of the student. The student uses the information to self-assess and will utilize available tools to improve.
APPENDIX D

Formative Whole School workshop completed by researcher and Dr. Cole

**Concerns, Questions, and Ideas**
- What is the definition of formative assessment?
- What is the research around formative assessment?
- What counts as formative assessment?
- Can grades be a type of assessment?
- What are some examples of formative assessment?
- How do we get buy-in from our students?
- What does formative assessment look like in a lesson plan?
- Is formative assessment only a formal process?
- What does record keeping look like?
- What counts as data?

**What is Formative Assessment?**
How would you define Formative Assessment?
- What qualifies as formative assessment?
- What does it look like in a classroom today?
- How does the learner benefit from formative assessment?
- How does the teacher benefit from formative assessment?
- How does formative assessment influence planning for instruction?

**What do the experts say?**
- Scriven (1967) - formative assessment is used to target program development.
- Bloom (1969) - provides feedback and correctives to students at each stage in the teaching-learning process.
- Black and William (1998) - the results obtained are actually used to adapt the teaching to meet student needs.
- Shepard (2008) - the process produces not so much a score but an insight into student understanding.
- William and Thompson (2008) - adaptations in instruction will occur over short periods, within or between lessons.

**What Key Words or Concepts Stand Out?**
- Go to the following web site:
  - www.ipost.com
  - Username: ........................
  - Password: ........................
  - Select the ........................
- You can add sticky notes to represent the key words and concepts you want to remember for your emerging definitions of formative assessment.

**Putting some of the ideas together**
- Popham (1999) - Formative assessment is a process in which assessment-elicited evidence of students’ status is used by teachers to adjust their on-going instructional procedures or by students to adjust their current learning tactics.
- Stiggins, Chappin, Chappin, Arter (2005) - Formal and informal processes teachers and students use to gather evidence for the purpose of improving learning.
Charlotte Danielson’s Framework

- Knowledge of Students
  - The teacher understands the active nature of student learning and acquires information about levels of development for individual students.
  - The teacher also systematically acquires knowledge from several sources about individual students’ varied approaches to learning, knowledge and skills, special needs, and interests and cultural heritages.

Charlotte Danielson’s Framework

- Setting Instructional Outcomes
  - The outcomes are clear, written in the form of student learning, and permit viable methods of assessment.
  - Outcomes are differentiated, in whatever way is needed, for individual students (groups of students).

Charlotte Danielson’s Framework

- Designing Coherent Instruction
  - The sequence of learning activities follows a coherent sequence, is aligned to instructional goals, and is designed to engage students in high-level cognitive activity.
  - These are appropriately differentiated for individual learners.
  - Instructional groups are varied appropriately, with some opportunity for student choice.

Charlotte Danielson’s Framework

- Designing Student Assessments
  - Assessment criteria and standards are clear for assessing student work and show evidence of student contribution to its development.
  - The approach to using formative assessment is well designed and includes student as well as teacher use of the assessment information.
  - Assessment methodologies have been adapted for individual students, as needed.

Charlotte Danielson’s Framework

- Establishing a Culture for Learning
  - Students assume responsibility for high quality by initiating improvements, making revisions, adding detail and/or assisting peers in their precise use of language.
  - Students understand their role as learners and consistently expend effort to learn.

Charlotte Danielson’s Framework

- Using Assessment in Instruction
  - Assessment is fully integrated into instruction, through extensive use of formative assessment.
  - Students appear to be aware of, and there is some evidence that they have contributed to, the assessment criteria.
  - Questions and assessments are used regularly to diagnose evidence of learning by individual students.
  - A variety of feedback, from both the teacher and peers, is accurate, specific, and advances learning.
  - Students self-assess and monitor their progress.
  - The teacher successfully differentiates instruction to address individual students’ misunderstandings.
What would LHS’s Definition be?

- Create a working definition that exemplifies what formative assessment looks like for Lincoln High School.
- Before you leave today, write your department’s definition of what formative assessment should look like for the (teachers and students) here at Lincoln High School.

   Things to Consider:
   1. Who should be included in our definition
   2. Is it a process or overall judgment
   3. Can it be formal and informal
   4. What will we do with the information gathered
   5. What is the purpose for formative assessment

Next Steps....

- We will compile a list of all the department definitions.
- We will use the most common themes to come up with the LHS definition of formative assessment.
- This definition will drive the professional development here at LHS and help us answer the lingering questions regarding implementation of a school wide formative assessment system.
APPENDIX E

Teacher Survey

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>I try to understand why my students succeed or fail on an assessment or activity.</td>
</tr>
<tr>
<td>2.</td>
<td>If students do poorly on an assessment, it is my responsibility to re-teach.</td>
</tr>
<tr>
<td>3.</td>
<td>Assessment is a tool used only by the teacher.</td>
</tr>
<tr>
<td>4.</td>
<td>The teacher should offer on-going and appropriate feedback to the students.</td>
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</tr>
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</tr>
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</tr>
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</tr>
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<td>End of Chapter or Unit tests are the best methods for documenting learning.</td>
</tr>
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<td>Whole group instruction works in high school because I can teach to the middle and work up or down based on the daily student responses.</td>
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<td>15.</td>
<td>My day is too busy to fully implement formative assessment in my classroom.</td>
</tr>
<tr>
<td>16.</td>
<td>Using a varied approach to questioning is part of the formative assessment process.</td>
</tr>
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<td>17.</td>
<td>Grades define student learning.</td>
</tr>
<tr>
<td>18.</td>
<td>Lecture is the most effective way to teach high school students.</td>
</tr>
<tr>
<td>19.</td>
<td>Documenting individual progress towards learning targets is a key factor in planning.</td>
</tr>
<tr>
<td>20.</td>
<td>There is time for student reflection during the instructional day.</td>
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<tr>
<td>21.</td>
<td>It is important to give a study guide for tests.</td>
</tr>
<tr>
<td>22.</td>
<td>An assessment plan should be created before instruction begins.</td>
</tr>
<tr>
<td>23.</td>
<td>Assessment should only be used as an accountability piece for reporting grades.</td>
</tr>
<tr>
<td>24.</td>
<td>Differentiated instruction based on evidence of student learning is part of my daily planning.</td>
</tr>
<tr>
<td>25.</td>
<td>Formative assessment is used daily in my classroom.</td>
</tr>
</tbody>
</table>
APPENDIX F

Individual Interview Questions

1. If formative assessment was not required, would you still use it in the classroom as part of the planning process?

2. Do you and your department partners collect the same kind of formative data?
   
   2a. What do you do with this data?
   
   2b. Is this data shared with anyone or used in the classroom only?
   
   2c. How do you analyze this data?

3. Do you feel formative or summative assessment is more informative for your instruction? Why?

4. Are you (currently) using assessment as an effective tool to gauge student progress?

5. Are you (currently) tracking individual student progress, and revisiting the data on an ongoing basis to determine progress?

6. What are your initial perceptions regarding the value of using formative assessment?

7. Are you (currently) using formative assessment effectively or are you still learning how to use it?
   
   7a. Do you need training in this area?
   
   7b. Would you attend trainings in this area if it was offered?
APPENDIX G

Focus Group Questions

1. How do you define assessment in your classroom?
2. What do you see as the driving force behind assessment?
3. What is the most practical way for high school teachers to formatively assess students?
4. What do you think is the biggest hurdle, if any, to implementing formative assessment?
5. Do you feel formative or summative assessment is the most informative?
6. Do teachers effectively use assessment as a tool to gauge student progress?
7. Compared to when we began implementing formative assessment, do you feel teachers’ perceptions have changed one way or the other?
8. How has implementation of formative assessment effected planning and preparation?
9. What would assist teachers the most with implementation of formative assessment?
10. Is there anything you would like to add?
<table>
<thead>
<tr>
<th>Ms. Benson</th>
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<th>Disagree</th>
<th>Agree</th>
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F = First Response    S = Second Response    X = No Change    Shading = Expected Response

Change in Response       Midline
<table>
<thead>
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APPENDIX I

Mr. Michael’s Observation #1

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</table>

- Excellent, can teach others
- Needs help
- Did not understand
- Able to complete (with help)
- Can move forward

(Handwritten notes and symbols)
APPENDIX J

Mr. Michael’s Observation #1 Rubric

<table>
<thead>
<tr>
<th>Activity</th>
<th>Criteria 1</th>
<th>Criteria 2</th>
<th>Criteria 3</th>
<th>Criteria 4</th>
<th>Totals</th>
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<tbody>
<tr>
<td>Overhand Knot</td>
<td>Able to tie and dress the knot.</td>
<td>Able to tie knot after several attempts. Dress not attempted.</td>
<td>Did not tie knot without help. Knot was not dressed or attempted.</td>
<td></td>
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<tr>
<td>Figure 8 Knot</td>
<td>Able to tie and dress the knot.</td>
<td>Able to tie knot after several attempts. Dress not attempted.</td>
<td>Did not tie knot without help. Knot was not dressed or attempted.</td>
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<tr>
<td>Figure 8 on a Bight Knot</td>
<td>Able to tie and dress the knot.</td>
<td>Able to tie knot after several attempts. Dress not attempted.</td>
<td>Did not tie knot without help. Knot was not dressed or attempted.</td>
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<tr>
<td>Figure 8 Follow Through Knot</td>
<td>Able to tie and dress the knot.</td>
<td>Able to tie knot after several attempts. Dress not attempted.</td>
<td>Did not tie knot without help. Knot was not dressed or attempted.</td>
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<tr>
<td>Climbing Harness</td>
<td>Harness Tight on hips and legs. Attachment point in center of body. No clothing impeding use</td>
<td>Hip or leg straps not tight. Attachment point not centered. Clothing impeding use</td>
<td>Both hip and leg straps loose. Clothing covers harness. Legs straps crossed over</td>
<td>Unable to put on the harness without help.</td>
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<tr>
<td>Climbing Terminology</td>
<td>All terminology used correctly.</td>
<td>3 of the 4 commands used correctly.</td>
<td>2 of the 4 commands used correctly.</td>
<td>1 or no commands used correctly.</td>
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<tr>
<td>Climbing</td>
<td>Performs the climb safely using proper techniques. Climbs to full potential.</td>
<td>Performs the climb safely but does not climb to full potential.</td>
<td>Does not climb safely. Rope does not stay between hands. Does not climb to full potential.</td>
<td>Does not attempt to climb or places self or others in danger.</td>
<td></td>
</tr>
<tr>
<td>Being Belayed</td>
<td>Sits in harness with feet flat on the wall. Walks down the wall until bottom touches mat.</td>
<td>Sits in harness with feet flat on the wall. Feet touch the ground before bottom.</td>
<td>Falls back to belay position. Feet not flat on wall. Touches wall with hands on decent and feet touch mat before bottom</td>
<td>Bounces off the wall. Constantly touches the wall with hands on decent. Does not complete belay to ground.</td>
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<tr>
<td>Gri-Gri Hook-Up</td>
<td>Attaches to climbing rope and harness correctly. Rope is on brake hand side.</td>
<td>Attached correctly to harness. Brake hand rope on opposite side of dominant.</td>
<td>Rope incorrectly placed on Gri-Gri but changed before beginning.</td>
<td>Rope incorrectly placed on Gri-Gri. No attempt to change before beginning.</td>
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<td>Hand Position/Movement</td>
<td>Hands never cross over. Continually tightening the rope while climbing occurs.</td>
<td>Hands cross over 1 or 2 times. Rope slack throughout the climb.</td>
<td>Hands cross over multiple times. Cannot keep slack out of rope or communicate to regain control.</td>
<td>Hands cross over, major slack in rope, does not pay attention to climber.</td>
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<tr>
<td>Brake Hand</td>
<td>Always in contact with the rope. Placed to proper position during belay.</td>
<td>Leaves the rope once. Placed in proper position during belay.</td>
<td>Leaves the rope multiple times. Not in brake position during belay.</td>
<td>Constantly leaves the rope. Brake position not used or used inappropriately.</td>
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<tr>
<td>Speed/Accuracy</td>
<td>Consistent speed with no bouncing of climber. Accelerator not touched until climber in belay position.</td>
<td>Consistent speed with no bouncing. Accelerator touched before climber in belay position.</td>
<td>Inconsistent speed. Accelerator touched before climber in belay position.</td>
<td>Places self or climber in a harmful or dangerous position.</td>
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APPENDIX K

Ms. Benson’s Observation #2
## APPENDIX L

Mr. Aaron’s Focus Group Formative Plan

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APPENDIX M

Dear ______________:

Thank you again for agreeing to participate in my doctoral study. As a graduate student seeking my Doctoral degree in the Department of Curriculum and Instruction at Southern Illinois University Carbondale, I appreciate your assistance throughout the course of this research.

The purpose of the enclosed survey is to gather information about teachers’ perceptions of formative assessment and the phenomenon that supports these perceptions that may result in possible barriers to its implementation in a high school setting. The study was designed to obtain information about teacher self-reported perceptions of formative assessment as part of their everyday planning and preparation. In addition to this survey, I will follow up with an individual interview and focus group at a later date.

The attached survey will take 5 to 10 minutes to complete. All your responses will be kept confidential within reasonable limits. Only people directly involved with this project will have access to the surveys.

Please complete and return this survey in the envelope provided.

Again, questions about this study can be directed to me or to my supervising professor, Dr. John McIntyre, Department of Curriculum and Instruction, SIUC, Carbondale, IL 62901. Phone (618) 536-2441 or email johnm@siu.edu.

Thank you for taking the time to assist me in this research.

Sincerely,

Melanie Brink

Melanie Brink
----------------------
mمبرink3@gmail.com

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu
APPENDIX N

Informed Consent Agreement

My name is Melanie Brink. I am a graduate student at Southern Illinois University-Carbondale, and I am asking you to participate in my research study. Please read this consent agreement carefully before you decide to agree to participate in the study.

Purpose of the research study: The purpose of the study is to investigate teacher perception of formative assessment, and the phenomenon that supported their perception resulting in possible barriers to implementation. The research results will be published as part of a doctoral study.

What you will do in the study: Your participation is on a voluntary basis and you will not be obligated if you ever decide to not participate. During the course of the research project, complete a formative survey, participate in observations, be interviewed on an individual basis and participate in focus groups. You may be audiotaped during the interviews and focus groups or any discussions as it relates to this research that may take place during work time. Again, participation is voluntary so you have the ability to decline participation at any time throughout the research. You also can skip any question during the interview, stop the interview, or discussion if at any time they feel uncomfortable.

Who will be involved in the interviews, observations, and focus groups: Besides myself, Dr. John McIntyre and Dr. Christie McIntyre will participate, interview, lead, and observe in classroom observations, interviews, and focus groups. Again, participation in this research is voluntary, but participants should know all three researchers will be actively involved during this process.

Time required: The study will require about 6 hours of your time. Two observations will take place with follow up discussions lasting about 20 minutes each. In addition, you will participate in two 10-minute surveys. A focus group will meet at the beginning of the research and periodically throughout the research as needed and individual interviews will take place throughout totaling no more than 6 hours. Since this is a qualitative study, some participants will want and require more time than others, and as the research emerges, I will allow it to guide the amount of time needed in each area.

Risks: There are no anticipated risks associated in this study.

Benefits: The study may help us understand the correlation between how practicing teachers perceive the impact of formative assessment and how the barriers of implementation can stifle its effectiveness on everyday instructional delivery.

Confidentiality: Each participant will be given a number and the school will not be identified. This will allow the participants responses to remain confidential. All data will be locked and secured at all times. The materials will be locked in a file cabinet in room ---- at Lincoln High School. The materials, including any audio collected during the research will be destroyed upon conclusion of the research. The only individuals with access to the participants’ information will be Melanie Brink, Dr. John McIntyre, and Dr. Christie McIntyre.

I will take all reasonable steps to protect identity throughout the research.
Data linked with identifying information:
The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name to this code will be kept in a locked file at Lincoln High School Room ----- and will only be accessible by Melanie Brink, Dr. John McIntyre, and Dr. Christie McIntyre. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report.

Anonymous data:
The information that you give in the study will be handled confidentially. Your data will be anonymous which means that your name will not be collected or linked to the data.

Confidentiality cannot be guaranteed:
Every attempt will be made to guarantee that your data is confidential.

Focus Group: All reports based on this research and written by the researcher will maintain the confidentiality of individuals in the group. Only group data will be reported and no names will be used. Since a focus group involves a group process, all members of the group will be privy to the discussions that occur during the session; therefore, absolute confidentiality on the part of the participants, themselves, may be difficult to ensure.

Voluntary participation: As stated previously, your participation in the study is completely voluntary. This study will not affect your employment or status with their employer. All information obtained during this research will be used solely for the purpose of the intended study.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty. If audiotape is used, the participant’s tape will be destroyed should you decide to withdraw.

How to withdraw from the study: If you want to withdraw from the study, you have the right to let the researcher know at any time throughout the research by means of verbal or written communication. There is no penalty for withdrawing.

Payment: For your participation in the research you will receive no payment for participating in the study.

If you have questions about the study, please contact me or Dr. John McIntyre (if applicable):

Researcher’s Name Melanie Brink
Department, Address Department of Curriculum and Instruction, SIUC, Carbondale, IL 62901
Telephone: 618-536-2441

Faculty Advisor’s Name Dr. John McIntyre
Department, Address Department of Curriculum and Instruction, SIUC, Carbondale, IL 62901
Telephone: 618-536-2441
Agreement:

I agree to participate in the research study described above.

I understand that my responses will be recorded on audio tape.

I agree ___ I disagree ___ that ______ may quote me in her paper or presentation.

I agree ___ I disagree ___ that ______ my responses may be recorded on audio tape.

Signature: _____________________________________________ Date: ________________

You will receive a copy of this form for your records.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu
VITA

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Melanie K. Brink
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Eastern Illinois University
Bachelor of Science in Education, May 1996

Rockford College
Master of Science in Instructional Strategies, August 2002

Eastern Illinois University,
Specialist Degree in Education, December 2013

Dissertation Title: Teachers’ Perceived Understanding of Formative Assessment And How This Understanding Impacts Their Own Classroom Instruction

Major Professor: Dr. John McIntyre