THE DEVELOPMENT OF STUDENT MEANING AND MINDSET

THROUGH THE PRACTICES OF STANDARDS-BASED GRADING

by

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ABSTRACT

Standards-based grading is a philosophy of grading in which teachers give students grades based entirely on the students' mastery of the content standards, allow students multiple opportunities to demonstrate mastery, and provide rewards and consequences for student behaviors outside the scope of grades. The purpose of this study was to explore how middle school students at a new middle school made meaning of their learning based upon their interactions with the school's practices of standards-based grading and whether their interactions resulted in the development of a growth mindset towards their larger potential for learning. Two research questions guided this study: What meanings do middle school students make from their interactions with the practices of standards-based grading at a new middle school? What mindset qualities do middle school students adopt from their interactions with the practices of standards-based grading at a new middle school? This grounded theory study adopted a practice-based epistemological approach, which holds that individuals learn and know by engaging in the practices of their daily environments. The researcher explored the meanings and mindsets of seventh grade students as they interacted with the practices of a standards-based grading system, which included retake opportunities, remediation sessions, and choice offerings. The students reached five conclusions: Learning takes time and effort, everyone deserve multiple chances to learn, learning and grades are both important, perseverance should be rewarded in teacher grading practices, and students hold decision-making power with regard to their own learning. The researcher also identified six mindset qualities of students. First, students believed that they could change their learning potential through

time and effort. Second, they felt that giving effort or practicing is not a sign of lesser talent or intelligence. In addition, students recognized that a moment of failure is not hopeless and that people who care about them value improvement and growth. Students felt that their ultimate potential for learning is not predetermined. Finally, they decided that some challenges require time and effort that they cannot, or will not, give.

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CHAPTER I

INTRODUCTION

For generations, teachers, parents, and students have placed a great deal of emotional emphasis on student grades. A grade is a mark that represents how well a student is doing in school, and whether the grades are letters, percentage scores, or another type of grading mark, they indicate a student's overall student performance or achievement (Marzano, 2000). Teachers use grades to motivate their students to excel, to compel students to adhere to school and classroom procedures, to reward their students, and to promote students into the appropriate next level of coursework (Reeves, 2011). Parents use grades as an indicator of how their child is performing in school, as a way to value their child's intelligence and performance relative to other children, as a means of demonstrating their child's success to others at honor roll assemblies and on bumper stickers, and even as a self-assessment of their success as parents (Vatterott, 2015). Students often view grades as indicators of their effort and compliance with their teachers rather than their learning, and while good grades provide affirmation, poor grades often evoke feelings of disappointment, shame, and embarrassment in students (Guskey, 2015). From an early age, students hear that their grades will determine their academic honors, class rank, college acceptance, and scholarship opportunities, as colleges and universities use high school grade point averages for admission criteria and as indicators of potential success in college (Hoffman & Lowitzki, 2005). Between the financial, emotional, social, and educational implications of grades, it is not a surprise that grades have a "cult-like" status in American society (Olson, 1999).

While grades are one source of stress for students, other realities of their schooling experience also cause emotional turmoil. Middle school, in particular, can be a challenging period for students. For the first time in most students' lives, they begin to change classes and work with multiple teachers during the day. They also encounter an increase in after-school activities related to athletics, hobbies, music lessons, and similar extracurricular commitments. In addition, middle schoolers experience physiological and psychological changes due to normal human development during these years (Roeser & Eccles, 1998; Rudolph, Lambert, Clark, & Kurlakowsky, 2001; Ryan, Shim, & Makara, 2013).

The educational practices of middle schools and middle school teachers can add to the challenges. In elementary school, teachers often provide ongoing personal communication with their students regarding their individual learning progress, and they use report cards as a way to keep parents aware of their child's current achievement (Guskey, 2015). Furthermore, elementary school students frequently experience nurturing and mothering from their teachers (Forrester, 2005), which manifests as more second chances and patience for developing behaviors. In middle school, however, many teachers view grades as a way to increase student responsibility and work habits (Guskey & Anderman, 2008). To prepare their students for high school and to instill a value on work completion and effort, secondary teachers will implement grading policies that place emphasis on skills such as organization, time management, homework completion, and participation (Brookhart, 1994; Cross & Frary, 1999). "One-shot" summative assessments also may penalize students heavily for a few missed questions, which may affect an entire semester's grade due to one poor exam (Brookhart & Nitko, 2015).

Middle school teachers are more likely to fail a student than an elementary teacher and are less likely to give opportunities for students to show increased effort (Randall & Engelhard, 2008). Some middle school students, accustomed to their elementary school's support system, struggle to adjust to this different schooling system and may experience failing grades for the first time.

Other middle school students, however, quickly recognize the patterns of middle school and identify strategies to inflate their grades. These students easily recognize that it is possible to earn a strong grade by being procedurally compliant. For example, when teachers give grades for study skills, such as writing all assignments in an agenda book or maintaining an organized binder, they comply. Or, when teachers give grades for behaviors, such as arriving to class with all necessary materials, writing in pencil instead of pen, or participating in class, they comply. In effect, these students are able to earn a strong grade in class without necessarily mastering any course content (Stiggins, 1997).

For many middle school students, grades become even more complicated because of an increased parental emphasis on student grade point averages. For the parents of high achieving students, there is a perception that middle school report card grades are critically important for post-secondary schools and employers (Munk & Bursuck, 2001). When middle school students experience poor grades for the first time, parents sometimes express disappointment to both students and teachers and add pressure on both parties for improved grades. This only adds anxiety to the already-stressful experiences of middle school students.

Grades are a controversial and confusing subject for some middle school teachers as well. Undergraduate and graduate education programs seldom teach students about

grading or reporting (Guskey, 2015), and teacher candidates often leave their preparation

program without a knowledge of appropriate and ethical methods for evaluating and

grading students (Bonner & Chen, 2009). Some teachers also harbor pre-conceived

opinions about grading, such as the belief that good teachers should give poor grades,

assign a bell-curved assortment of grades to their students, or feel that not all students

deserve an A (Vatterott, 2015). Traditionally, each teacher may manipulate the weights,

grading scales, rubrics, and categories for their own grades (Marzano, 2010). On a team

of teachers, it is common to find a variety of teachers grading the same assessment in

many different ways (Cross & Frary, 1999). Quite often, student grades may be derived

by any combination of factors and categories that a teacher chooses to use (Guskey,

2015; Reeves, 2011). Common formative assessment, a comprehensive system in which

teachers work together to create shared formative assessments and performance

expectation rubrics (Bailey & Jakicic, 2012), can sometimes be abandoned due to time

constraints. Indeed, ever-increasing demands on instructional time and pressure to

produce student mastery on high-stakes tests have caused some teachers to grade every

assignment and assessment, even those designed for student practice or to plan next

instructional steps (Abrams, McMillan, & Wetzel, 2015). Contextual factors, including

grade level team, administration, school, or district protocols, may place further pressure

on teachers with regard to grading (Nolen, 2011).

On a daily basis, teachers work to reconcile the processes of formative assessment

with the requirements of grading students. One method for marrying these two concepts

is through the implementation of a grading system called standards-based grading.

Standards-based grading is a philosophy in which students are solely graded against

grade level content standards or learning targets (Marzano, 2006; Marzano, Pickering, & Pollock, 2001). Behavioral factors such as participation and effort are not factored into grades, and teachers provide multiple opportunities for students to practice skills before a graded assessment is given (Reeves, 2008; Wormeli, 2006). Standards-based grading, also called grading for learning, allows students to retake assessments, giving students who need more time to show mastery that window of opportunity (O'Connor, 2009). Human brains grow at different rates (Passingham, 1985), and a variety of factors will affect adolescent learning rates (Hohnen & Murphy, 2016; Reyna, 2012). Standards-based grading allows all students in a class the time they need to master the content without penalizing their grade, as students can continue to raise their grade until the end of the reporting period (Guskey, 2015; Marzano, 2000). With standards-based grading, formative assessments guide student learning, and only summative assessments grade student learning (Brookhart, 2011a; Chappuis, Stiggins, Chappuis, & Arter, 2012).

Teachers, schools, and districts across the United States began implementing standards-based grading over twenty years ago (Frisbie & Waltman, 1992; Webster, 1994). In many places, the decision to initiate a standards-based grading protocol was a systemwide decision, but in others, just a few teachers in the school were the ones who led the initiative (Bengiamin & Leimer, 2012; Rundquist, 2012). Joining the progressive ideology of standards-based grading with established norms (such as school board mandated grade weights or parents' historical frames of reference) can be extremely challenging, but many teachers and schools have successfully navigated this learning curve over the years (Cox, 2011; Peters & Buckmiller, 2014; Tierney, Simon, & Charland, 2011).

A new school has the enviable ability to create its own identity, untethered by traditions or routines. Educators, parents, and students in a new school can develop the structures and practices they desire in an effort to foster the optimal learning environment. If a newly opened school decided to adopt a standards-based grading policy, it would be only one of many novel site-based experiences for students, staff, and families.

The opening of a new school is a rare occasion. Whereas many organizations, such as businesses and non-profit organizations, begin relatively small and grow over time, a school can open its doors with a thousand individuals (students, staff, parents, administration) in the organization on the first day. The individuals in the new school interact with one another, with the site, with the materials, and with the practices that emerge and develop in the school. One approach to understanding how the members of an organization make meaning within their context is practice theory (Schatzki, Knorr-Cetina, & Savigny, 2001). This theory holds that the practices in the organization are manifestations of the knowing and that the meanings that participants make derive from the practices (Nicolini, 2012). Therefore, under this theoretical background, the students at a new, standards-based grading middle school form their understandings and knowledge from the practices of the school, including the grading practices.

The various meanings that students make from these standards-based grading practices are numerous. However, one interesting possibility is with regard to student mindset. Researcher Carol Dweck (2006) has identified two types of mindsets that individuals may adopt. A fixed mindset is one in which an individual believes that his or her capacity for learning has a limit, and these individuals frequently orient their work

towards outperforming their peers and performing well in front of others. A growth mindset, however, is one in which an individual believes that he or she has an unlimited capacity for learning. Individuals with a growth mindset have an orientation towards mastery, as opposed to performance, and student learning and achievement may increase in students who possess a growth mindset (Paunesku et al., 2015). The standards-based grading practices of this new middle school may shape student mindset towards learning.

Statement of the Problem

Middle school students encounter three years of new experiences when they navigate through sixth, seventh, and eighth grades, including those experiences related to secondary teacher grading practices. As students interact with the structures and practices of middle school, they make meaning for themselves and form mindset qualities related to their capacity for learning. Secondary teacher grading practices may contribute to the development of unfavorable qualities in student mindsets.

Some students struggle to maintain a personal sense of value for effort and perseverance during this challenging time of middle school, and some may lose their confidence in their ability to learn. Some students may develop fixed mindset qualities during these fundamental adolescent years, which might include placing importance on outperforming peers and performing well in front of others. These adverse traits may transfer forward to their experiences in high school or college and in their careers.

Purposes of the Study

This study, conducted at a new middle school that instituted a standards-based grading philosophy, explores the implications of this grading structure on student meaning and mindset as evidenced in the student practices. The broad purpose for the

study is to construct an understanding of the role of standards-based grading practices in fostering a growth mindset in students.   At an organizational level, the purpose is to explore how the middle school students at a new middle school made meaning of their learning based upon their interactions with the school's practices of standards-based grading and if this meaning resulted in the development of a growth mindset towards their larger potential for learning.

Educational studies do not often employ a practice-theory framework. Furthermore, researchers have not used practice theory to study how student participation in standards-based grading practices shapes mindset at a new middle school. The researcher confirmed this through a series of searches on ERIC, Academic Search Premier, and ProQuest using varied combinations of these search terms: standards-based grading, mindset, middle school, secondary, grading, practice theory, new school, and goal orientation. This research adds to the literature on the topic of standards-based grading, specifically in a broad understanding of how standards-based grading practices can affect student goal orientation and mindset at a middle school level. Furthermore, this study adds to the literature on the rare instance of opening a new organization, particularly a middle school, and provides an example of the application of the practice theory approach in educational research.

Research Questions

Two research questions guided this study:

1. What meanings do middle school students make from their interactions with the practices of standards-based grading at a new middle school?

2. What mindset qualities do middle school students adopt from their interactions with the practices of standards-based grading at a new middle school?

Rationale and Justification

The completion and dissemination of this research study contributes to the body of knowledge with regard to standards-based grading, the development of mindsets, and the applications of practice theory in middle school studies. Indeed, there has not yet been a practice-based study into how the practices of standards-based grading shape middle school students' meanings and mindsets towards learning. Furthermore, this study supports the wider adoption of standards-based grading philosophies. On a more specific level, the implementation of a standards-based grading policy resulted in a positive, growth-focused mindset at this new middle school, positively affecting the students in this school both now and in their future educational/career paths.

Study Methodology

This study utilizes a grounded theory framework of qualitative inquiry (Glaser & Strauss, 1967) along with a practice-based epistemological approach, which holds that meaning emerges from the practices of participants in an organization or social grouping (Schatzki, Knorr-Cetina, & Savigny, 2001). The information gained from the grounded theory research informed an understanding of how students made meaning and adopted a mindset from the practices of standards-based grading.

Organization

This study contains four chapters beyond this introductory chapter. Chapter Two reviews the literature with regard to grading practices, student goal orientation, mindsets,

and practice theory. In Chapter Three, the methodology of this research investigation is

explained. Chapter Four provides the results of this study, and Chapter Five discusses

this study's findings, limitations, implications, and suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents a review of the literature to provide an empirical context for the subsequent research study. First, the chapter reviews the literature on grading, including traditional and standards-based grading systems, formative and summative assessment, feedback, models of grading, mastery opportunities in grading, and the averaging of scores. Next, this chapter explores the literature related to standards-based schools and districts as well as the literature on student goals and goal orientations. Finally, the chapter concludes with a literature review of site ontology and practice theory.

Grading

There is ample research on the general effects of grading on student motivation, learning behaviors, and goal orientation. Indeed, the category of grading transcends the fields of sociology, educational psychology, and measurement. Critics of grading have been vocal for over 80 years (Crooks, 1933; DeZouche, 1945; Kirschenbaum, Napier, & Simon, 1971), with contemporary researchers stating that grading causes issues such as academic cheating (Anderman & Murdock, 2007), performance-avoidance in students (Pulfrey, Buchs, & Butera, 2011), and superficial learning that does not become fully integrated in students (Grolnick & Ryan, 1987). Some cry for the end of grades altogether (Kohn, 1999, 2011). The past two decades have seen an increase in the implementation of the standards-based grading philosophy that strives to end traditional grading injustices (Brookhart, 2011b; Guskey, 2009; Guskey & Jung, 2013; Marzano, 2000, 2010; O'Connor, 2009; Stiggins, 2005, 2014; Wormeli, 2006).

Brookhart and Nitko (2015) define grading as "the process of summing up students' achievement in a subject through the use of letters such as A, B, C, D, and F" (p. 497). The practice of grading students has been in existence for hundreds of years, first at a university level but moving to grade schools and high schools by the early 20th century in the United States (Brookhart, 2015; Trowbridge, 2007). Grades are an accepted, almost critical, component of our education system. As Pattison, Grodsky, and Muller stated in 2015, "Grades are the fundamental currency of our educational system; they signal academic achievement and noncognitive skills to parents, employers, postsecondary gatekeepers, and students themselves" (p. 259). Colleges and universities use high school grades and grade point averages as a primary factor in their admission criteria and institutional funding decisions (Conger, 2015). Grades are also the primary predictor of student performance in college (Atkinson & Geiser, 2009), especially for post-secondary institutions with lower selectivity (Sawyer, 2013). Grades are, indeed, an important component of the educational journey for students, parents, and teachers.

Most school systems require that teachers grade their students on individual assignments throughout the school year and on the larger body of achievement in a subject during a reporting period on report cards. Teachers distribute grades to parents and students through electronic and hard copy grading communication systems and document these grades in student cumulative files. Many educational experts agree that the primary purpose for grades is to communicate to students and parents the level of understanding or proficiency that the student has achieved on an assignment or in a grading period (Brookhart, 2004; Guskey & Jung, 2013; Marzano, 2010; O'Connor, 2009; Wormeli, 2006). O'Connor (2009) takes the position that the main purpose for

grades is to communicate about student achievement and that secondary reasons (administrative uses, instructional decision-making, student guidance) are side effects of clear communication. Brookhart (2004) and Bailey and McTighe (1996) likewise accept communication as the primary reason for grading. Guskey and Jung (2013) provide a comprehensive definition bent towards communication as well:

> The purpose of grading is to describe how well students have achieved specific learning expectations based on evidence gathered from an assignment, assessment, or other demonstration of learning. Grades are intended to inform parents, students, and others about learning successes and to guide improvements when needed. (Guskey & Jung, 2013, p. 71)

However, while there is general agreement that the purpose for grades is communication, a concern is the uncertain content of this communication. For over a century, researchers have expressed concern over the lack of reliability and clarity in what student grades represent (Crooks, 1933; DeZouche, 1945; Guskey, 2006; Kirschenbaum, Simon, & Napier, 1971; Munk & Bursuck, 2001; Philbrick & O'Donnell, 1968; Raths, Wojtaszek-Healy, & Della-Piana, 1987; Senk, Beckmann, & Thompson, 1997; Starch & Elliott, 1912; Stiggins, Frisbie, & Griswold, 1989). Students and teachers might see a letter grade, but this grade could be composed of a variety of non-achievement factors.

In a 1999 study by Cross and Frary, it was found that 25% of the teachers in the study increased a student's report card grades for students who demonstrated high effort. A study by Zoeckler (2007) resulted in similar findings but also found that, besides effort,

some teachers factored in moral characteristics.   Other teachers use a combination of effort and ability (McMillan, Myran, & Workman, 2002). In a 1998 study of high school science teachers, researchers Feldman, Kropf, and Alibrandi found that 16% of teachers based their grades on student ability as opposed to achievement on the performance standards. Other factors such as homework, attendance, notebooks, and organization are also contributors to course grades (Bursuck et al., 1996; Randall & Engelhard, 2009; Stiggins, Frisbie, and Griswold, 1989). Participation in class was identified as a moderate or strong influence on grades for the majority of teachers in the 1999 study by Cross and Frary as well.

Given the variety of factors teachers use to give students grades, it is reasonable to question the validity of these "hodgepodge" grades in general (Cross & Frary, 1999). In addition, with colleges and universities placing a heavy weight on grades and grade point averages (Conger, 2015), it is important for grades to be accurate and truly reflective of student learning. These concerns regarding grade validity have contributed to the development of a new strategy for giving student grades called standards-based grading. There are fundamental differences between a traditional grading system and a standards-based grading system.

Traditional Grading Systems

In a traditional grading system, student achievement is often reported as a letter grade (A, B, C, D, or F) and/or as a percentage (99%, 98%, and on) (Brookhart & Nitko, 2015). School boards establish the approved reporting systems for their district, and teachers utilize the reporting system in report cards and progress reports as well as for

purposes as needed within their schools and classrooms. A traditional grading

philosophy allows for a broad array of components to generate a student grade.

Depending on the teacher, these items might include homework, classwork, labs,

projects, group work, exit tickets/formative assessments, participation, effort, adherence

to rules, behavior, timeliness, organization skills, extra credit/bonus points, attendance,

and class rank. Within each category, teachers may tabulate scores in a variety of ways,

and they may assign "weights" to each of these categories according to importance from

the teacher's personal perspective (Feldman, Kropf, & Alibrandi, 1998).

In a traditional grading system, there is not one agreed-upon recipe for how to

assess students, which categories to use, how to derive at numerical or letter scores, or

how to weight the different categories. Teachers have great authority to adjust

percentage cut-offs, award or subtract points subjectively, and use their professional

judgment. (Pace & Hemmings, 2006).

Marzano (2010) has further shown that traditional grading philosophies can lead

to shocking inconsistencies in student grades, even when controlled for many of the

above factors. He describes an activity that he conducted with thousands of teachers,

each receiving the same information about a single student's performance on an

assessment. In his experience, a variety of teachers will grade the same assessment

anywhere from a 15% to a 90% proficient with the difference lying in how the teacher

views multiple-choice items, short answers based on class discussions, or short answers

based on student inferences and application. This 75-percentage point difference

highlights the variability in grades dependent upon teacher values. Other authors,

including Wormeli (2006) and O'Connor (2009), share similar stories of teacher subjectivity in grading.

Besides the issue of teacher subjectivity, there is also the possibility for teacher bias. Wormeli (2006) writes of teachers adjusting grades by student poverty level, and Marzano (2000) describes a federal government study that found that at the same assessed mastery level, student grades were different according to school socioeconomics. Teacher grading practices have also shown favor to students who cooperate in class and "keep things moving," even when the teacher is not officially grading these qualities (Kelly, 2008).

Standards-based Grading Philosophies

In the 1990s, American states began adopting statewide content standards to determine levels of proficiency expected of students in their states, and the 2002 No Child Left Behind Act only solidified the country's stance that state standards were critical components in the assessment of students, teachers, and schools (No Child Left Behind Act, 2001). States and districts defined content standards for each grade level as well as performance standards to define levels of proficiency with regard to the content standards. More recently, there has been a creation of national standards for students, called Common Core State Standards, adopted by forty-two states, the District of Columbia, four territories, and the Department of Defense Education Activity (National Governors Association Center for Best Practices and the Council of Chief State School Officers, 2010). In every case, standards define minimum levels of competency that students should master in each grade and subject.

For the past fifteen years, many notable educational researchers have called for the use of a grading philosophy called standards-based grading to measure student achievement against academic standards (Brookhart, 2011a; Chappuis, Stiggins, Chappuis, & Arter, 2012; Guskey, 2009; Guskey & Jung, 2013; Marzano, 2006, 2010; Marzano, Pickering, & Pollock, 2001; O'Connor, 2009; Reeves, 2008; Wormeli, 2006). In a standards-based grading system, teachers grade students on their mastery of these academic standards and handle categories such as effort, participation, attendance, extra credit, following rules, and group projects outside the scope of individual student grades. Proponents of standards-based grading suggest that these behaviors may still be graded and reported but should be done so separately from academic grades (Guskey, 2009; O'Connor, 2011). The benefit of this separate reporting system is that it can meaningfully address the behaviors valued by the school, district, or community, such as citizenship, teamwork, organization, or timeliness. Other standards-based grading advocates recommend that teachers give formative feedback to students to shape desired behaviors (Marzano, 2000; Wormeli, 2006). Brookhart (2011b) advises teachers to "grade achievement, and handle behavioral issues behaviorally" (p. 58), suggesting strategies such as rewards and consequences, parent conferences, behavior contracts, and structural behavior systems in the school.

Some opponents of standards-based grading argue that without the behavioral factors contributing to student final grades, students will not be motivated to complete their work, participate in class, or adhere to any of the other behavioral components of student expectations (Spencer, 2012). In addition, some have argued that allowing students to retake assessments unfairly inflates student grades, especially for students

who take more time to understand concepts (Solocheck, 2012). Teachers have reported

that grading requires more time and effort with standards-based grading (Cox, 2011).

These types of concerns, however, are infrequent, with the preponderance of literature on

standards-based grading heralding the positive benefits for students, student learning, and

accuracy of student grades.

The difference between traditional and standards-based grading is quite noticeable

in student grades. For example, consider a typical unit on geometry in a 6th grade math

class. In a traditional grading system, the teacher might combine all of these components

into one final student grade for the geometry unit: participation in class discussion,

homework completion, pop quiz, geometry group project, classroom effort, chapter quiz

on geometry, neatness and aesthetic presentation of a geometry poster, and a final exam

on geometry skills. Conceivably, a student who does not understand geometrical

reasoning or geometry could earn a strong grade given this assortment of components

because many of the grades evaluate effort, completion, and participation. Similarly, a

student who did not participate enough in class, write neatly on the poster, and show

enough effort on homework or classwork could earn a poor grade overall, even if their

understanding of the geometry concepts was exceptional (O'Connor, 2011).

In a standards-based grading protocol, however, none of the above components

would be included in the student's final geometry grade except for the chapter quiz and

final exam, because these are the only two that are summative in nature and target the

geometric skills. Furthermore, the teacher would report the quiz, exam, and grades

separately according to the specific geometry standards, such as understanding the area of

polygons, volume of three-dimensional figures, and surface area. Most importantly, in a standards-based grading structure, students who score poorly on the summative assessments of geometry have the opportunity to continue learning the content and could retake the summative assessment to demonstrate their final learning of geometric concepts. In a standards-based system, it is impossible for a student who doesn't understand geometry to receive high grades, and a student who does master the geometric content will be graded accordingly, even if their learning happens after multiple attempts or over a longer period of time. The standards-based grading system essentially guarantees that grades represent student learning of the standards as evaluated on summative assessments only (O'Connor, 2011).

Formative and Summative Assessment

Formative assessment is a process in which teachers first evaluate student learning with regard to a learning target, provide feedback and opportunities for additional learning opportunities or remediation based on the evaluation data, and finally re-assess student learning for further guidance (Brookhart, 2015). It is a cyclical process that promotes teacher and student awareness of student strengths and deficits and, by its formative nature, plans for next steps instructionally, and it allows for student growth opportunities. Summative assessment, on the other hand, is the assessment that comes at the conclusion of the learning and does not intend to guide teacher instruction or student remediation opportunities. Typically, summative assessments assign grades to students and are the end of the learning process. Many consider formative assessment to be assessment *for* learning, or assessment that moves the learning process to the next step of continued learning. Summative assessment, on the other hand, is assessment *of* learning

or assessment that compares student achievement against a predetermined criteria in the classroom, school district, or state (Burke, 2010; Chappuis, Stiggins, Chappuis, & Arter, 2012; DuFour, DuFour, Eaker, & Many, 2006; O'Connor, 2009).

Many notable experts in the field of assessment and education champion the use of formative assessments by teachers. Popham (2008) clearly defines formative assessment as a planned process for use by teachers and students, and he identifies four levels or reasons for using formative assessment: teaching adjustments, student learning adjustments, classroom climate improvements, and schoolwide transformation. He explores the idea of building blocks of learning and promotes formative assessment as a way for teachers and students to evaluate student understanding of each building block, which then allows for a progression of learning. Through this process, student learning improves, which is the main purpose of formative assessment, according to Popham (2008).

Others promote the idea that formative assessment can increase teacher collaboration, which is another method for increasing student learning (DuFour, DuFour, Eaker, & Many, 2006). Bailey and Jakicic (2012) connect formative assessment with the Professional Learning Community process through the work of collaboratively unwrapping power standards, designing common formative assessments, analyzing data, and then sustaining the work for ongoing increases in student learning.

Formative assessment also addresses the issue of timing. Summative assessment occurs at the conclusion of the learning, but formative assessment occurs throughout the learning process, allowing teachers and students to make adjustments to improve learning while there is time to do something about it before the summative assessment occurs

(Burk, 2010; Marzano, 2010; Popham, 2011). Marzano (2010) considers formative assessment's power to change teacher and student behavior as a defining feature of the process. For teachers, this change in behavior might include the identification of content to review or reteach, and for students, this change in behavior might include understanding the content to learn or the skills to practice. Formative assessment empowers teachers to continue teaching and students to continue learning because formative assessment articulates that there is still time to take action (Chapuis, Stiggins, Chappuis, & Arter, 2012; Popham, 2011).

Feedback is another critical component of formative assessment. If a student takes a formative assessment and does not receive any feedback on it, the formative assessment is not formative, as it does not work to increase student learning. Traditionally, the feedback that a student receives after taking a summative assessment is a grade. In seeing his or her grade, a student understands how he or she performed with regard to the assessment's evaluation criteria, even if that feedback is a single letter grade. In the formative assessment process, however, descriptive feedback is given to help the student continue to learn and hopefully demonstrate increased mastery in the next assessment. Chappuis (2009) suggests five characteristics of effective feedback for learning:

1. Directs attention to the intended learning, pointing out strengths and offering specific information to guide improvement

2. Occurs during learning, while there is still time to act on it

3. Addresses partial understanding

4. Does not do the thinking for the student

5. Limits corrective information to the amount of advice a student can act on.

(p. 57)

Teacher use of these five guidelines can support students in their progression to increased learning and content mastery.

There is much empirical evidence to support formative assessment's positive impact on student achievement. Researchers Black and Wiliam (1998) conducted a meta-analysis of twenty research studies related to formative assessment at elementary, secondary, and post-secondary levels and found an effect size of between $d = 0.4$ and $d = 0.7$ for most research studies, deeming these results significant. Similarly, Hattie (2009, 2012) found formative assessment to be a critical strategy for increasing student learning in his review of over 800 meta-analyses related to student achievement. In fact, in Hattie's work, formative evaluation was shown to be the strongest teacher influence on student achievement among all others studied with formative evaluation having an effect size of $d = 0.90$ (Hattie, 2009).

Unfortunately, the real life demands of everyday teaching do affect teacher decisions with regard to formative assessment. Yan and Cheng (2015) studied 450 teachers from ten schools and found that even when teachers understood the importance of formative assessment and indicated that they planned to conduct formative assessment with their students, this did not consistently result in the actual practice of using formative assessment. Novice and experienced teachers must also work within the constraints of their current grade level or subject area team, administration viewpoint, and

school system protocols, which can influence their decision regarding formative

assessment (Nolen, 2011). The increasing importance on high-stakes testing has affected

teacher use of instructional time and, in some cases, has transformed formative

assessment into smaller versions of summative tests such as with benchmark tests and

other test-preparation formative assessments (Abrams, McMillan, & Wetzel, 2015).

Formative assessment plays a critical role in the practice of standards-based

grading (Marzano, 2000). Teachers provide their students with these frequent non-

graded, formative opportunities to allow students to gain mastery of the content and

skills. Teachers then use these pieces of formative work, including homework,

classwork, some quizzes, and other activities, as a means to give students feedback on

areas in which to focus and as a lesson-planning tool for their own instructional next

steps (Stiggins, 2005; Wormeli, 2006). Students receive grades on summative

assessments, and even then, if they continue to learn the content and skills to a deeper or

more accurate level, they may retake the summative assessment for a higher grade

(Guskey, 2009; O'Connor, 2009).

Standards-based grading advocates also commonly adopt a balanced, holistic

viewpoint towards summative assessments for grades. Marzano (2010) states, "a

summative score should not be derived from a single final assessment. Rather, a

summative score should be the most reasonable representation of a student's final status

at a particular point in time" (p. 27). O'Connor (2011) advises teachers to create an

assessment plan that includes many opportunities for formative assessment and multiple

pieces of summative assessment, again avoiding a singular summative assessment data

point. Teachers may record formative assessment results for use in tracking progress, but

they should not calculate these into the final grade. Similarly, because student learning occurs over time, he advises teachers to emphasize recent evidence as opposed to early scores. In particular, he states, "use the most consistent level of achievement with special consideration for the most recent assessment" (O'Connor, 2009, p. 137). Wormeli cautions against simply using the last student score to determine student grades, but instead to look at the larger picture of student achievement (Wormeli, 2006) to understand the level of student learning.

<div align="center">**Feedback**</div>

Traditional grading systems do not specifically require giving student feedback as a condition for assigning a student a grade, and, in fact, "teachers' feedback to pupils seems to serve social and managerial functions, often at the expense of the learning function" (Black & Wiliam, 1998, p. 142). Standards-based grading systems require teachers to give students feedback on formative assessments to help students learn and master the academic content, also preparing them for the summative assessment. O'Connor calls feedback "the main product" in grading for learning (O'Connor, 2009, p. 120). Giving students specific feedback, or "descriptive information about what the student did," (O'Connor, 2009, p. 125) allows the student to act upon the information and make adjustments.

<div align="center">**Grading Model**</div>

There are two broad frameworks for grading students: norm-referenced grading and criterion-referenced grading (Brookhart &Nitko, 2015). In a norm-referenced grading structure, teachers grade students against other students, essentially comparing a student's performance with that of other students in the class. It is a competitive system

in design, as it places emphasis on a student's standing in relation to their peers, which

can generate feelings of rivalry (Purpel, 1989). Many traditional grading system

philosophies align with a norm-referenced grading system, and schools rank students in

order of class standing according to grade point average or allow teachers to grade on a

curve (Marzano, 2010). In a criterion-referenced system, however, teachers grade

students in comparison to a defined set of objectives or knowledge, not in comparison to

one another. It is not competitive in nature, as each student's grade reflects their mastery

of the objectives or standards, and all students could potentially receive the top grade if

they all mastered the standards. Criterion-referenced grading frameworks are a

fundamental element of standards-based grading (Guskey & Jung, 2013; O'Connor,

2009; Wormeli, 2006), and with increased attention to objective standards, criterion-

referenced grading shows great potential for future grading reform (Sadler, 2005).

Effort, participation, homework completion, organization, and many other non-

achievement-related factors frequently contribute to a student's grade in a traditional

grading system (Brookhart, 2015; Cross & Frary, 1999; Senk, Beckmann, & Thompson,

1997; Zoeckler, 2007). With a standards-based grading system, however, these

behavioral components do not contribute to a student grade because they are not

standards-based (Marzano, 2010; O'Connor, 2009).

Opportunities to Demonstrate Mastery

Traditional grading systems are time-bound, and students must show mastery

within the time allocated for the learning to occur, typically the time dedicated for the

project, assignment, or learning objective (Carter, 2007). From a standards-based

grading philosophy, however, teachers believe in offering students second, third, or even

fourth chances at success. Wormeli (2006) and O'Connor (2009) have each written persuasively about the primary reason to allow students to retest or re-do assignments. In life, adults receive second chances, and students should receive the same allowances. Standards-based grading is interwoven with the ideals of positive reinforcement (McMillan, 2009), fairness (Jung, 2009; Sampson, 2009; Wormeli, 2006), and accuracy (McElligott & Brookhart, 2009). Offering students the opportunity retake an assessment aligns with these values and provides students with every possible chance to demonstrate their mastery of the standards. Most importantly, the ever-present hope provided by a retake opportunity can increase and sustain student motivation, an important component in the successful education of middle school students (O'Connor, 2009).

Using Highest Scores

It is commonplace for teachers who use a traditional grading system to average all student scores at the end of a reporting period in order to determine the final grade for the class. This accumulation of scores might include a variety of assignments and behavioral factors and might represent an unknown assortment of learning targets. Similarly, a student might have earned a 40% proficient on a quiz and then a 90% on the final test, which would lead the traditionally grading teacher to average their score to a 75% (Wormeli, 2006). Standards-based grading, however, does not support the idea of averaging scores in this way. Rather, the teacher records the highest scores on the summative assessments, as this demonstrates the true level of mastery that a student has achieved with regard to that learning target (Marzano & Heflebower, 2011).

Standards-based Grading Schools and Districts

This shift to a standards-based grading philosophy has not been an easy one for teachers or parents to make (Cox, 2011; Guskey, 2009; Tierney, Simon, & Charland, 2011; Wormeli, 2006). Traditional practices of grading have been in existence since today's adult teachers and parents were in school, and transitioning away from them has been a difficult challenge to overcome for some. The importance of high stakes tests has increased pressure on teachers as well. While there has been some evidence that standards-based grades have a moderate degree of convergence with standardized test scores (Welsh, D'Agostino, & Kaniskan, 2013), the challenges that schools and districts face can sometimes cause this grading reform effort to fail.

The past fifteen years of standards-based grading implementation have offered some important tips for schools and districts beginning the standards-based grading system. Teachers who have experienced standards-based grading are one source of information. In one Michigan middle school, teachers found that collaboration among the teacher team and the school administration, detailed organization, and careful record keeping were critical steps to success (Deddeh, Main, & Fulkerson, 2010). In another high school, teachers found a need for alternative assessment methods, specifically a grading technology to assist with scoring multiple opportunities for mastery and a clear, focused knowledge base on the reasons for assessment (Cox, 2011). Post-secondary faculty members experimenting with standards-based grading identified practical advice such as allowing sufficient time for the entire process from planning through retakes, targeting learning outcomes on a rotating basis, and limiting standards to three standards per summative assessment (Benjamin & Leimer, 2012).

Principals and school leaders who have implemented standards-based grading share additional advice. One case study of principals who have implemented standards-based grading found that three critical components to success were "an intentional plan with a reasonable timeline, ongoing professional development and collaboration, and effective two-way communication about the purpose of grading" (Peters & Buckmiller, 2014, para. 1). O'Connor (2001) advises principals to give teachers clear guidelines about grading protocols, be proactive in the communication and training, and consistently adhere to standards-based grading fundamentals. A study by Tierney, Simon, and Charland (2011) found great variation in teachers' understanding and perceptions of standards-based grading even among a single school staff, which then resulted in inconsistent practices across the school. If the principal provided training to clarify the essential principles and designed clear protocols for teachers, it might increase teacher ability to assign grades that accurately reflect student achievement on standards.

Standards-based grading involves many practices. Teachers grade students based on non-behavioral, academic standards; formative assessment is non-graded, provided frequently, and accompanied by feedback; grades are criterion-referenced, not norm-referenced; students take assessments multiple times to show mastery; and their final grade is not an average but represents their highest level of learning. These practices are quite different from the historical traditions in schools in the United States, and they certainly may shape student understanding of their school experience. In addition, the practices of standards-based grading may shape student motivation and beliefs about their own capacity to learn and succeed as well.

Motivation

In a middle school, adolescents frequently struggle with a plethora of social challenges including peer relationships, sense of belonging, peer pressure, social media, and popularity issues (Ellerbrock, Keifer, & Alley, 2014; Kiefer, Matthews, Montesino, Arango, & Preece, 2013). Given this, it is intuitive to explore a social cognitivist perspective on motivation. Social cognitive theorists have dedicated much time and focus on the connection between learning and motivation over the past twenty-five years (Schunk, 2016). Social cognitive theory upholds the belief that social components are integral to the learning and motivation process. Bandura (1989), a notable forerunner of social cognitive theory, makes the claim that individuals learn and are motivated by observing others and that learning is not only a cognitive process but also a self-reflective, self-regulatory, and even vicarious process.

This social cognitive perspective is specifically applicable to the relationship between middle school students' grades in a standards-based grading system and their motivation for learning. As students observe and socially interact with their teachers, parents, and other students regarding the grading practices of standards-based grading, including criterion-referenced grades and retake opportunities, student motivation may be affected (Frye, 2010). In addition, standards-based grading practices may necessitate specialized practices for the school, such as flexible periods of time for remediation and retakes, punitive repercussions for non-completion of work (since grades may not be used for this purpose), and additional communication (O'Connor, 2009; Wormeli, 2006). These practices of standards-based grading may relate to the motivational constructs of student goal orientation.

Student Goals and Goal Orientations

Goals are "internal representations of desired states, where states are broadly construed as outcomes, events, or processes" (Austin & Vancouver, 1996, p. 338). As desired states, goals represent a future condition and signify something a person wants to achieve or avoid (Elliot & Fryer, 2008). One subset of goals, *achievement goals*, specifically focus on a person's achievement-related behaviors, particularly how individuals think, act, and feel during activities related to learning and achieving (Ames, 1992). Interestingly, achievement goal theory has spurred over 1,000 published papers in the past 25 years and has been the source of great debate among educational psychologists, learning theorists of all perspectives, and researchers (Elliot & Murayama, 2008; Hulleman, Schrager, Bodmann, & Haarackiewicz, 2010).

One primary reason for the debate stems from the larger theme of *goal orientation* theory. Goal orientation theory purports that an assortment of variables are contributors to a student's perspective on achievement goals, and these variables include their motivation to learn, their feelings on their own abilities and self-efficacy, their attribution for their learning behaviors, their cognitive processes used, and their overall achievement (Schunk, 2016). Because of the variety of factors that contribute to one's goal orientation, different researchers have focused on slight variances in details and characteristics to identify and label their own particular goal orientation constructs. However, despite the wide variety of terms and differences in definitions, the descriptions refer to similar goal characteristics, which fall into two main categories: learning (or mastery) goal orientation and performance goal orientation (Ames, 1992; Dweck & Leggett, 1988; Grant & Dweck, 2003).

With a learning or mastery goal orientation, an individual's goal is to master the targeted knowledge. Achieving this goal might involve learning a new skill or strategy, but ultimately the goal is to increase one's ability by learning the content (Dweck & Elliott, 1983). Mastery goals have been found to be correlated with students' perceived confidence (Kaplan & Midgley, 1997), increased cognitive engagement (Meece, Blumenfeld, & Hoyle, 1988), and ultimately heightened motivation (Spinath & Steinmayr, 2012). Dweck (2006) utilized this research to develop the concept of a growth mindset. With a growth mindset, an individual holds a learning goal and believes that, through effort, they can learn and achieve mastery.

On the opposite side of the goal orientation spectrum, a performance goal is one in which the individual's goal is to impress others and satisfy the individual's self through the act of completing learning tasks (Dweck & Leggett, 1988). Mastery of content or learning is not the primary motivation to a person with a performance goal. Performance goals have been further defined into two categories: performance-approach goals, or goals that drive students to perform as well or better than their peers, and performance-avoidance goals, or goals in which student focus is to avoid appearing incompetent (Elliot & Murayama, 2008). Social and academic competitiveness is often unhealthy and can result in individuals with performance goals, which can result in lowered perceptions of abilities and decreased task motivation (Schunk, 1996). A performance goal orientation has also been associated with a fixed mindset, or the mindset that one's abilities are limited and that effort will not change this (Dweck, 2006).

Mastery and performance goals, along with growth and fixed mindsets, empirically connect with grades and the motivational impact of grades. Traditional

grades, by their nature, are normative and foster an environment conducive to student competition (Purpel, 1989), and it is not surprising that grades have been shown to instill a performance goal orientation in students for many years (Ames, 1992; Butler, 1987; Elliot & Moller, 2003). Pulfrey, Buchs, and Butera (2011) found that graded tasks, as opposed to non-graded tasks, caused students to adopt performance-avoidance goals even when formative feedback accompanied the graded task. Performance-avoidance goals reduce motivation (Elliot & Moller, 2003). Mastery goal orientations, on the other hand, have been associated with increased student motivation in learning environments, and mastery goals predict persistence and effort in students (Elliot, McGregor, & Gable, 1999; Midgley, Kaplan, & Middleton, 2001). With regard to grading, a 2005 study found that when college students received their first major exam grade, students with mastery goal orientations reported enhanced motivation by the grade, students with performance-avoidance goal orientations reported diminished motivation by the grade, and students with performance-approach goal orientations reported increased motivation only when the grade was a high grade (Shim & Ryan, 2005). Furthermore, researchers have connected mastery goal orientation and intrinsic motivation, which, when combined with student engagement factors, has demonstrated increased science achievement (Lee, Hayes, Seitz, DiStefano, & O'Connor, 2016).

There is also a link between growth-oriented goal orientation and student grades. A recent study of 3,676 students at 10 different high schools in California, New York, Texas, Virginia, and North Carolina found that when 9th grade students were actively taught the components of a growth-oriented mindset, approximately 95% of students experienced an increase in their core course grade point averages, and struggling students

experienced fewer grades of D or F (Yeager et al., 2016). Other research found that growth mindset training improved student grade point averages and increased satisfactory performance by 6.4 percent in high school students at risk of dropping out (Paunesku et al., 2015).

The types of instructional decisions made by teachers can affect student goal orientation towards learning as well. A recent study found that when middle school teachers focused on providing hands-on lessons and varied activities, students were more inspired to possess and meet learning goals (Mensah & Atta, 2015). A 2016 study of elementary students found that the activities that teachers endorsed and used in the classroom (performance-oriented vs. mastery-oriented) played a role in the students' motivational framework development (Park, Gunderson, Tsukayama, Levine, & Beilock, 2016).

Research and popular discussion continues on the mindset-related topics of grit (Duckworth, 2016), self-affirmation (Brady et al., 2016), and self-control (Duckworth, White, Matteucci, Shearer, & Gross, 2016), with these researchers finding that social psychological or socio-cognitive constructs such as these may impact academic achievement as well as student motivation. Common traits of students with growth mindsets include an appreciation of a challenge, an acceptance of risk taking, a value on growth and learning instead of easy success, and a focus on exceeding beyond previous accomplishments through work and effort (Dweck, 2010). On the other hand, character traits of students with fixed mindsets include fear or avoidance of challenges, an aversion to risky academic tasks, a value on quick successes that come easily, and a focus on showing others how naturally gifted, smart, or talented one is without any effort required.

This study focuses on the practices of standards-based grading, including the attention to grading for learning, the remediation opportunities, and the ability to retake assessments to prove increased mastery, and specifically seeks to understand if these practices of standards-based grading contributed to development of student mindsets, as listed above, be they fixed or growth. To accomplish this, the researcher utilized a strategy for organizational research known as practice theory.

Site Ontology and Practice Theory

Social ontology is the study of the structures and nature of social phenomena and the social world (Epstein, 2015). A multitude of theories relate to social ontology, and while some link social development with factors such as social discourses (Foucault, 1976) or individualism (Searle, 1995), site ontology upholds that social life or human coexistence is innately tied with the context surrounding the existence (Schatzki, 2002). Philosopher Schatzki calls this "the site of the social," further offering that organizations such as schools, communities, groups, markets, systems, crowds, and other social formations are sites of the social and that the site context determines the social phenomenon that occur and develop there (Schatzki, 2005). Site ontology is connected to a broader philosophy called practice theory, a belief that

> the basic units of analysis for understanding organizational phenomena are practices, not practitioners. Practices thus come first, because it is only when we appreciate the set of practices involved in a sense of action that we can ask what sort of agency and 'actor-ship' is made possible by these specific conditions. (Nicolini, 2012, p. 7)

Practice-based approaches further purport that within organizations and social

structures, knowing, understanding, and desiring are shaped by the routines of practices,

thereby making practice theory a cognitive theory in some respects (Reckwitz, 2002).

While philosophers theorize about different relationships between practices and knowing,

one stance is that practice and knowing have an immanent relationship: As individuals

pursue or engage in the practice, they inherently know it, and as they shift their practices,

they adjust their sense of knowing along with their modifications (Orlikowski, 2002).

This epistemological construct, combined with Schatzki's site-based social ontology,

further develops the practice theory approach. In essence, the site of practice is the site of

knowing.

Schatzki (2005) upholds that two critical workings happen in organizations,

which, when combined, causes social life to transpire. These two components are the

material arrangements, including the collection of people, artifacts, other organisms, and

things, and the practices of the site (Schatzki, 2005). He defines practices as "structured

spatial-temporal manifolds of action such as political practices, cooking practices,

recreational practices, and religious practices. An academic department, for example,

embraces varied practices, including teaching practices, advising practices, research

practices, decision-making practices, and ceremonial practices" (Schatzki, 2006, p.

1864). He further explains that four modules contribute to the structure of a practice:

how individuals understand the actions involved in the practice, the rules that individuals

abide by (or disregard) with respect to the practices, the teleological-affective

components (which include motivational, emotional, and customs-related factors, among

others), and the larger understandings of what the practice means or the nature of the practice in the world (Schatzki, 2006).

Researcher Nicolini (2011) identifies four important understandings with regard to the idea of practice as the site of knowing, outlined in Figure 1. First, observing and studying the practice is of primary importance, and in studying an episode of practice, one is observing the practice itself and the knowing that allows its performance. Next, practices are site-specific, and the knowing will depend upon the site in which the practice is accomplished. Third, practices are manifestations of a network of knowing, each strand of knowing connected to varying degrees of looseness. The site in which the practices occur help weave together the knowings in that situated specific practice. Finally, because of the impact of site, one can analyze the practices and knowing separately: "Knowing makes itself present in practice and transpires through it, although it cannot be reduced to it. The notion of site allow us to treat the concepts as ontologically equivalent and analytically separate" (Nicolini, 2011, p. 605).
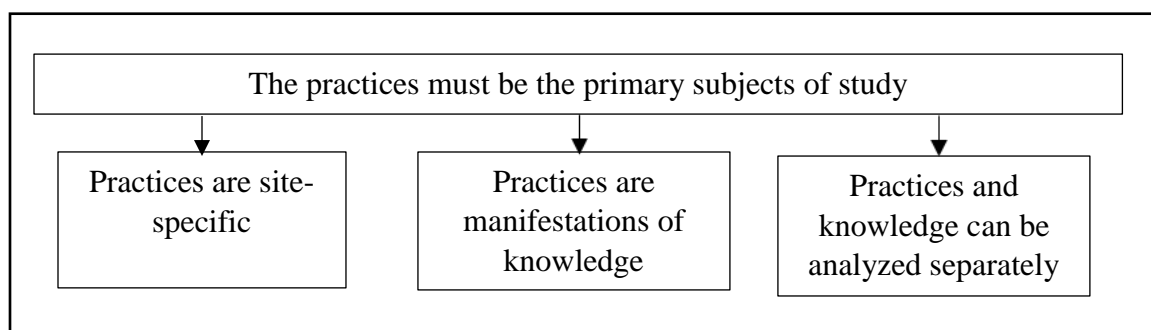
Figure 1. Understandings of Practice. Adapted from Nicolini, D. (2011). Practice as the site of knowing: Insights from the field of telemedicine. *Organization Science, 22*(3), 602-620.

 Given this theoretical perspective with regard to the site of a new middle school, the practices that occur within the new school by the individuals of the organization exemplify the created knowing and understanding. By studying the practices at the new middle school, including the practices of standards-based grading, one is also implicitly studying the knowing as well. As explained earlier in this chapter, there are many student practices that occur in standards-based grading, including the practices of retaking a test, adjusting one's work or learning strategies based on formative feedback, placing focus on learning standards as opposed to behaviors, and putting forth additional effort to master a standard, just to name a few. As students engage in these practices, they create their own understanding and knowing, hence studying the practices shows how students made meaning.

 It is important, however, to maintain an understanding that the practices and the knowing connect in time, particularly with regard to student motivation. Schatzki (2006) explains that there is a real time, or time of activity, in organizations (p. 1870). Real time practice certainly occurs in the present but has a past and future as well. The future dimension is the projected and is the end reason for the practice. The past dimension, meanwhile, is the motivation for the action: "The time of activity is, thus, acting toward an end from what motivates. It is a teleological phenomenon" (Schatzki, 2006, p. 1871). Nicolini (2012) further develops this teleological structure, stating, "studying how practices are connected cannot be separated from the understanding of what the object of work is, its practical concerns, and the underlying telos of the practice" (p. 232). Thus, a practice approach study, while focusing on the practices that create meaning for the individuals, must also consider the teleo-affective components, including motivation,

which in a study of standards-based practice might include motivational constructs of goal orientation, expectations, values, emotions, intrinsic and extrinsic motivators, and social support. The researcher accomplished this balancing act of examining practice as the site of knowing, along with considering teleo-affective, motivational factors, through the implementation of a practice theory observational technique known as zooming in and out, as described in the following chapter on the study's methodology.

This chapter has reviewed the literature regarding grading, student goals and motivation, site ontology, and practice theory. This empirical context informed the research study and provided the necessary background for the methodology in this grounded theory, practice-based study.

CHAPTER III

METHODOLOGY

This chapter presents the methodology of this grounded theory, practice-based study that sought to answer the following research questions:

1. What meanings do middle school students make from their interactions with the practices of standards-based grading at a new middle school?

2. What mindset qualities do middle school students adopt from their interactions with the practices of standards-based grading at a new middle school?

Six sections are included in this chapter. The first two sections review the epistemological and qualitative inquiry frameworks for this study. Following this is the context of the study and overall research design. An explanation of the data collection procedures occurs next, and the chapter concludes with the structure for participant sampling protocols.

Epistemological Framework

At its core, this study adopts a practice theory approach, which holds that meaning and sense-making emerge from the practices that happen in an organization and the participants' interaction with these practices (Nicolini, 2012). A number of variations on practice theory exist (Bispo, 2015), but all practice theorists maintain a few fundamental concepts in common. One of these common beliefs is the notion that when studying organizations, a researcher must be concerned with the practices, not the practitioners (Nicolini, 2012). In this study, then, the data gathered pertains to student

practices, not just the students. In addition, practice theorists hold a shared belief that practices are more than the simple activities that people do but are instead the critical components that actually form identities, create order, and continually shape and reshape organizations over time (Nicolini, 2009b).

Practice theory "is part of the movement towards a relational epistemology, because practice makes it possible to see and represent a mode of ordering the social in which doing and knowing are not separated" (Gherardi, 2012, p. 16). Indeed, the epistemological tenet of practice theory is that knowing is in the doing, or knowing is in the practicing (Nicolini, 2012). Part of the practicing is not only how one acts, speaks, and feels but also understanding what things mean and what might happen next. One shares these capacities with others, and through mastery of the practice, it becomes knowledge. When one repeats practices out of habit or reflex, it indicates a level of knowing that occurred through the repetition of practices.

While practice theorists certainly share an epistemological understanding of the role of practice in knowing, fewer agree on how this stance should guide researchers in their studying of practices. Most practice research is qualitative, and the focus is on the practices and the organization around the practices (as opposed to the participants), but the qualitative inquiry framework beyond these basic characteristics varies greatly (Corradi, Gherardi, & Verzelloni, 2010).

Qualitative Inquiry Framework

This study utilizes a grounded theory methodological stance, in which qualitative data helps develop theories about the relationships among the data points (Patton, 2015). While researchers Glaser and Strauss (1967) pioneered grounded theory, Strauss

continued to refine the fundamentals of this theoretical stance through his work with fellow University of California researcher Corbin. According to Corbin and Strauss (1990, pp. 419-422), eleven canons must be present in grounded theory research:

1. Data collection and analysis are interrelated processes.

2. Concepts are the basic units of analysis.

3. Categories must be developed and related.

4. Sampling in grounded theory proceeds on theoretical grounds.

5. Analysis makes use of constant comparisons.

6. Patterns and variations must be accounted for.

7. Process must be built into the theory.

8. Writing theoretical memos is an integral part of doing grounded theory.

9. Hypotheses about relationships among categories are developed and verified as much as possible during the research process.

10. A grounded theorist need not work alone.

11. Broader structural conditions must be brought into the analysis.

This study follows all eleven of these principles for grounded theory research. Overall, because this qualitative inquiry project occurred at a new organization and adopted the practice theory epistemology that places importance on the site of the social (Schatzki, 2002), this study might best be described as a grounded theory practice-based study with the site of the practices being Riverside Middle School.

Context

In July of 2016 a new middle school, referred to as Riverside Middle School (RMS) in this study, opened with 630 students in grades sixth through eighth. Riverside Middle School is located in a rapidly growing, suburban town in the southeastern United States. The population growth in the area necessitated the new construction and opening of RMS. Its inaugural year of existence as a school building was the 2016-17 academic year. The researcher did not conduct research during the first semester, instead allowing students and staff time to learn the structures and routines of standards-based grading at the school. The researcher used the second semester of the inaugural year as the timeframe to study the meanings and mindsets that students had made from their first five months of experiences.

The 2016-17 students of RMS had attended two neighboring schools the prior year. Both of these previous schools utilized traditional grading procedures with a school board-approved numerical grading scale of A (91-100%), B (81-90%), C (72-81%), D (70-71%), and F (0-69%). In addition, at the previous middle schools, the school policy of 20% Classwork, 10% Homework, 40% Major Tests and Projects, and 30% Quizzes and Small Projects governed teacher grades.

The researcher selected RMS as the site of this research for a few reasons. First, a practice theory methodology focuses on observing and documenting the practices that occur within a site. The researcher's availability for this type of in depth observation required daily access to the site of these practices. Because of this, it was necessary to select the researcher's school site or the school at which the researcher was the principal, at the location for this research because this allowed full, comprehensive access.

Furthermore, students were accustomed to seeing the researcher in classrooms and throughout the school building and knew that part of the researcher's job was to observe what is happening in these places. Students also often saw the researcher taking notes during observations and knew that the researcher was documenting how their teacher was performing. The researcher's daily presence at RMS enabled qualitative observations in a less obtrusive way, which lessened student reactivity to observational presence (Webb, Campbell, Schwartz, & Sechrest, 1999).

In addition, the researcher also selected RMS because it was a new school building, which provided a rare opportunity to study an educational organization as it was forming and happening. The initiation of a new school necessitated that all students created their own understanding as the year unfolded. Practice theorist Schatzki (2006) states,

> An organization as it happens embraces both the happening of the organization, that is, the carrying out of its practices, and practice memory, that is, the persistence of these practices' structures when they are not effective in the organization's happening. Practice memory, in turn, rests on a complex of actions, thoughts, abilities, and readinesses. (p. 1869)

As a school without a practice memory in regards to standards-based grading, RMS provided a context in which the researcher could study practices as students learned them for the first time. While teachers may have had prior experiences with grading at their previous teaching assignments, the practices of standards-based grading were new to them, as no RMS teachers had experiences with grading at a standards-based grading school.

It is also important to note that during the hiring process, the principal ensured that all incoming teachers at RMS understood and supported the expectations required of them with regard to standards-based grading. The interview process included questions designed to fully understand each teacher-candidate's perspective on grading students, allowing students to take assessments again, providing frequent formative assessment with feedback to students, handling behaviors and homework requirements outside the scope of grades, and giving multiple opportunities for students to demonstrate mastery. In every case, each newly-hired teacher not only agreed to follow the standards-based grading protocols of RMS but more importantly gave responses that indicated their fundamental belief in the power of standards-based grading and their innate conviction to a growth mindset.

In seventh grade at RMS, there are three math teachers (since some seventh grade students are taking Algebra, necessitating the assistance of the 8th grade math teacher), two English Language Arts (ELA) teachers, two social studies teachers, and two science teachers. Seventh grade students receive any of these teachers as homeroom teachers, with the exception of the eighth grade Algebra teacher.

As a new middle school, the arrangement of RMS allows teachers and students to work successfully within a standards-based grading structure. One component of RMS is a period of the day in which teachers can provide remediation on the taught instruction, and students can retake assessments to improve their grades without affecting normal classroom instructional time. Standards-based grading necessitates that teachers and students have second and third chances for successful learning to occur and for grades to reflect that mastered level of learning (Wormeli, 2006; O'Connor, 2009). However,

given the numerous standards that teachers must teach within each reporting period, it is extremely challenging to find time to remediate in this manner during the regular class period. Furthermore, some students demonstrate mastery on the first attempt and are ready to move on to the next concept, and using regular class time for remediation often means that the needs of these learners are not being met. Having a dedicated remediation period gives the affected students and teachers the time needed for standards-based grading.

At RMS, this period time intended for standards-based grading remediation is called flex time. Every student and teacher at RMS is given thirty minutes of flex time every day, Tuesday through Friday. During this time, most students may choose how to spend their thirty minutes, yet for accountability purposes, they must sign up for their chosen flex time activity each morning in their homeroom (first period) class. If a student is not missing any assignments, they may choose from a variety of flex time activities which include intramural sports, clubs, and other unstructured activities. A small percentage of students are not permitted to self-select their flex time activity, however. These students are ones who are behind, but not overdue, in their classwork and are assigned to Catch Up, and those who did not complete their homework or classwork must spend their flex time and lunch period in a disciplinary space called Homework Lunch Club (HLC). All other students may choose their flex time activity, however.

When students arrive at their homeroom class in the morning, the teacher offers the class a flex time sign-up sheet. On these sign-up sheets, the day's flex time offerings are listed. Students who have not completed their homework or classwork in any of their

classes must attend HLC. All other students are given the choice of where they would like to spend that day's flex time. Because the teachers must rotate through supervision of the variety of flex time activities, Boost is delineated by the days of the week.

Boost is the school's answer to the remediation/retake needs of standards-based grading. As mentioned, Boost is one of the many options for students during flex time. On Tuesdays, all English Language Arts (ELA) teachers are in their classrooms during Boost time. On Wednesdays, all math teachers are in their classrooms for Boost time. On Thursdays, all science teachers offer Boost, and on Fridays, ELA and math teachers offer Boost. Students may self-select to attend that day's pre-determined Boost session each morning during homeroom, and students understand that attending that particular day's Boost offering is the opportunity to receive remediation on the taught instruction and is the method by which they can take a retake of a summative assessment. Attending Boost, receiving remediation, and retaking a summative assessment may result in an improved grade for the student if their remediation/retake effort is successful.

At RMS, the retake assessments are not the same test as the original summative assessment. Teachers provide a new format or new questions for the retake assessment. In addition, all teachers require that students complete some form of remediation to be eligible to retake an assessment. The remediation typically includes the student completion of a "Request to Retest" form, a plan of action developed by the student, attendance at Boost sessions in preparation for the retake, the on-time submission of homework throughout the unit, and the completion of a remediation packet of work. Teachers determine the length and depth of their remediation packets. Some teachers have additional requirements, such as test corrections and student explanation of their

errors, a process of identifying the components of each standard that the student missed, the re-completion of homework or formative assignments, or the creation of other materials such as note cards or outlines. In general, teachers do not permit students to retake an assessment without high expectations for student effort and commitment, and the retake assessment may be a more challenging format than the original summative test.

Again, flex time is the period of the day fully dedicated to standards-based grading, and Boost is the remediation session within flex time. Because RMS is striving for students to take ownership of their learning, teachers do not force students to sign up for a Boost session. Often, teachers will give their students reminders, even firm or pointed reminders, regarding the student's poor grade on a recent summative assessment and the opportunity for a Boost session. Other teachers will call the students' parents, or send an electronic message to parents through the school's grade reporting/tracking software, encouraging students to attend an upcoming Boost session to receive remediation and retake a summative assessment. Ultimately, however, it is the responsibility of the student to sign up for Boost on the morning flex time sign-up sheet.

The context of RMS provided the site and conditions necessary for this study. Within this context, the researcher developed a research design protocol that allowed for the observation and analysis of various standards-based grading practices and their influence on student meaning and mindset. This protocol is explained below.

Research Design

This study adopts a design framework recently proposed by practice-based researcher Bispo (2015). Shown as designed by Bispo in Figure 2, this structure allows a researcher to choose the theoretical framework that best aligns with the purpose of the

study, which might include ethnography, grounded theory, case study, or

ethnomethodology (Bispo, 2015).
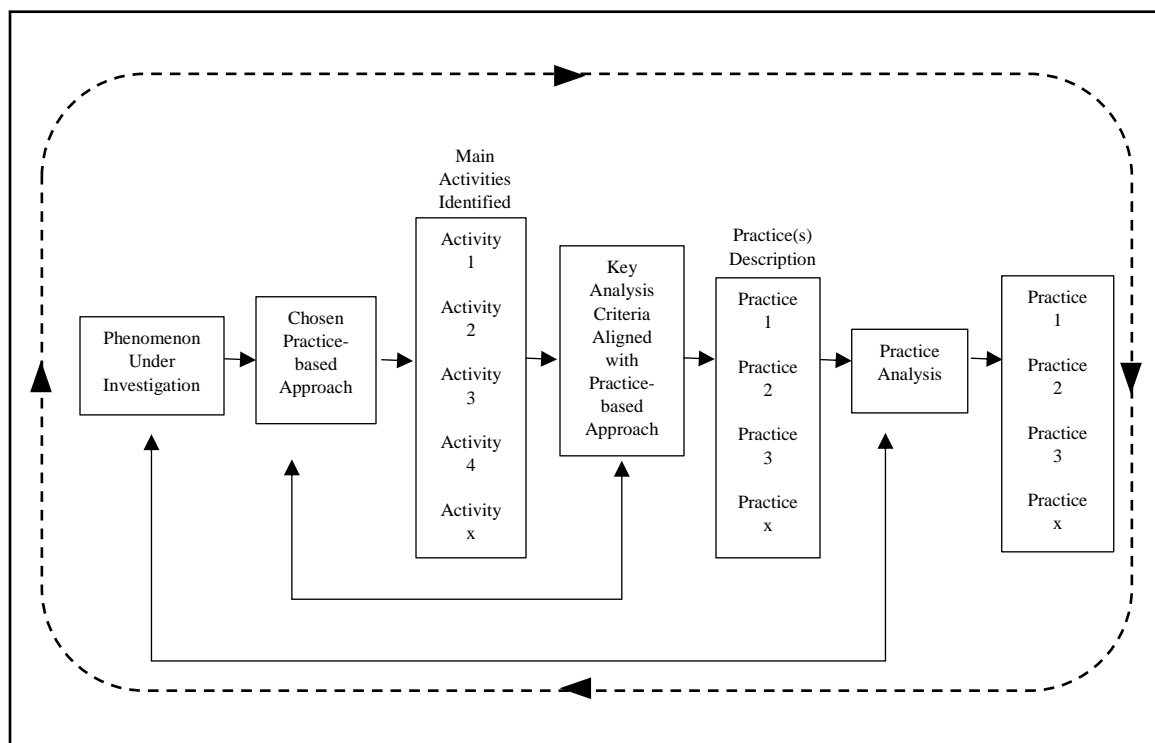
Figure 2. Practice-based data analysis process framework. Reprinted from Bispo, M. D. S. (2015). Methodological reflections on practice-based research in organization studies. *Brazilian Administration Review, 12*(3), 309-323. Reprinted with author permission.

With this broad structure, it was possible to substitute components that were

specific to this study, thereby creating a tailored research and data analysis design for this

particular study, shown in Figure 3.

Main
Activities
Identified

Practice(s)
Description

| Student Meaning and Student Mindset | Grounded Theory Approach | Activity 1 / Activity 2 / Activity 3 / Activity 4 / Activity x | Key Analysis Criteria and Theoretical Sampling Aligned with Grounded Theory Approach | Practice 1 / Practice 2 / Practice 3 / Practice x | Practice Analysis of Student Meaning and Student Mindset | Practice 1 / Practice 2 / Practice 3 / Practice x |

Figure 3.   Study-specific practice-based data analysis process framework. Adapted from Bispo, M. D. S. (2015). Methodological reflections on practice-based research in organization studies. *Brazilian Administration Review, 12*(3), 309-323.

Overall, this research study progressed in the following manner. First, the phenomena under investigation, student meaning and student mindset, guided the initial grounded theory techniques. As previously referenced, these fundamentals of grounded theory research include a focus on concepts, the related nature of data collection and analysis, a focus on the development of categories, a procession of sampling based on theoretical grounds, and an account of patterns, variations, and relationships (Corbin & Strauss, 1990). Given this, the grounded theory research process began with data collection and coding, but because this study adopted a practice-based approach,

observations and data collection aimed at identifying and categorizing the activities that together formed practices that shaped meaning and mindset for students. In other words, this study did not collect and code data, develop tentative categories, continue to collect and interact with data and categories, and finally construct concepts from these categories as is common in grounded theory research (Charmaz, 2013). Instead, this practice-based study collected and coded data, developed tentative categories of activities, continued to collect and interact with data and categories of activities that together formed concepts of practices, and finally used these concepts of practices to draw conclusions and form conceptual understandings about student meanings and mindsets. Finally, practice-based research focuses on the practices instead of practitioners. Therefore, the initial data collection process focused on data collection and observation of the routines of standards-based grading, and only after activities have been tentatively identified did theoretical sampling of student participants begin and did the first and second cycle coding of participant (student) data help inform the understanding of practices.

Participants

As stated, a grounded theory canon is that "sampling in grounded theory proceeds on theoretical grounds" (Corbin & Strauss, 1990, p. 420). Essentially, a grounded theory study may begin by studying a selective sample of participants, or participants who meet predetermined criteria, but as soon as concepts begin to emerge, the sampling may shift to a theoretical sampling procedure (Draucker, Martsolf, Ross, & Rusk, 2007). Theoretical sampling is done in tandem with data collection, as the emerging theories shape decisions such as who should be interviewed, what practices should be observed, when and where observations should occur, and how to proceed (Merriam, 1988). The

exploratory, sequential nature of this process unfolded throughout the data collection process of this qualitative inquiry study.

The following parameters guided the initial selective sampling of participants. First, initial participants were seventh grade students because, from the researcher's experience, seventh grade students are accustomed to the commonplace routines of middle school yet are still willing to try new experiences and talk with their principal and other adults. Eighth grade students, on the other hand, sometimes adopt a false attitude of boredom and self-important coolness, and by this grade, peer pressure becomes an added factor that could influence the research. Sixth grade students, again from researcher's experience, often take time to adjust to the patterns of middle school. Furthermore, seventh graders at RMS already had one year to experience customary middle school with traditional grading procedures. Seventh graders provided an interesting group of participants, as they had prior middle school experiences to compare with the standards-based grading structure.

A second parameter for initial sampling was student achievement. From the 210 students in the grade level, five high achieving students (or students with all A's in sixth grade), five medium achieving students (or students with a mixture of A's and B's in sixth grade), and five lower achieving students (or students with B's, C's, and below in sixth grade) were randomly selected for initial observation. While in some schools, lower achieving students would receive C's, D's, and even F's, at RMS the lowest achievement band of incoming students were in the range of B's and C's, with a very rare D. The randomly selected students were of any gender identification, ethnicity, socio-economic status, and homeroom affiliation. The parents of these fifteen students received

informed consent documents. If any parents had declined their child's participation, the researcher would have selected an additional participant, still following the same parameters above.

Following initial sampling, grounded theory methodology allows for the refocusing on different participants, if the emerging theories support that decision.   In this study, the researcher did not choose additional participants because the initial purposeful sample and the interview data from this sample provided rich information to draw consistent conclusions regarding student mindset and meaning. Furthermore, the first cycle/second cycle nature of the coding and data analysis process allowed the researcher to gather additional data via student interviews during the second cycle of the process. The careful consideration and analysis of first cycle data, in other words, shaped the data collection and question foci that occurred during second cycle interviews, allowing the researcher that important time to reflect and interact with the data midway through the interview process.

Data Collection and Analysis

The data sources for this qualitative research study included artifacts and documents, observations, and once practitioners were included, interviews conducted in a practice theory approach known as "interview to the double" (Nicolini, 2009a). As discussed, data collection of artifacts, documents, and observations began at the outset of the study. Once the researcher had tentatively identified activities, sampling of participants began, and the data collected from these interviews further defined the activity categories and shaped the practice concepts. The results of these first cycles of

data collection then identified further data collection needs that became apparent through the grounded theory study.

Artifacts and documents

The researcher collected and analyzed two types of practice-related documents as data in this study, one at the initial stage of the research and the other after participant identification. The initial practice-related artifacts were the attendance documents for remediation/Boost and flex time activities, which provided information on student and teacher priorities during this standards-based grading period. The researcher collected these attendance documents for four weeks at the beginning of the second semester of the 2016-17 school year.

At RMS, students receive a 30-minute window of time before the student lunch period. This time, called flex time, allows students the opportunity to choose their activity, and options include intramural sports, computer time, study hall, and a remediation, or Boost, time in which students may return to their teachers for additional instruction and for the opportunity to retake assessments as required in a standards-based grading structure. The researcher collected attendance documents for these Boost and flex time activities, which provided information on student priorities and choices for their learning, further contributing to the understanding of categories of meaning that developed with the standards-based grading practices. Once participants were selected, the researcher analyzed data for each of the participants' flex activity choices.

The researcher also analyzed the teachers' gradebooks for student participants, which allowed the researcher to understand participants' grades throughout the year and patterns in their grades. At RMS, teacher gradebooks include formative assessment

(ungraded but documented in grade books with a weight of zero) as well as retake information. The examination of grades and grading patterns of participants assisted the researcher in understanding the meaning that the middle school students made from their interactions with the practices of standards-based grading and the connection between these meanings.

Observations

One practice-based observation strategy is called zooming in, zooming out (Nicolini, 2012). As explained by its developer,

> the study and theorization of practice must start with zooming in on the real-time practising as an organized set of doings and sayings carried out using a variety of tools and mediatory resources. What distinguishes a practice-based approach is that what in traditional accounts appears as a given is seen and described here as a skilled accomplishment. (Nicolini, 2009b)

Zooming in is a process of observation in which the researcher simultaneous documents two types of doing: doing with words and doing with the body. Doing with words includes the details of the saying, the words, and the unspoken words, and doing with the body includes the details of the doing, the actions, and the absence of actions (Nicolini, 2009b). In documented representation, Nicolini suggests that the researcher simultaneous pair the doing with words and the doing with the body in a t-chart format, which allows the researcher to see how the body's movements are in fact a language of their own, and that doing is saying (or not saying) and saying is doing (or not doing).

Zooming in, according to Nicolini (2009b), can allow a researcher to understand many aspects of the practice, especially if the zooming in is focused on gathering

information about each of these specifically. Zooming in, for example, may focus on the role of the tools and materials that are involved in the practice or on the tension between practices that become repetitive and mindlessly reproduced versus practices that may change or allow for creativity. Zooming in might also focus on the legitimacy of the practice and how it becomes institutionalized over time, including its transference to others in an organization.

Zooming out is the second part of this observational protocol and is concerned with the interconnected nature of practices. Again, Nicolini (2009b) has developed guidelines for zooming out which allow the researcher to connect practices in space and time and to understand how the practices are maintained by these connections. In order to establish and connect practices in space and time, Nicolini suggests ongoing shadowing and observation of the practice and people at various places and times. Then, to understand how the practices are maintained, Nicolini suggests a focus on practice-based theorist Schatki's teleo-affective structures, including the object of the work, the motivation for the work, teleological orders and rules, other activities that network with the practice, and the beliefs and attitudes that practitioners hold about the practice (Nicolini, 2012).

This practice-based observational strategy of zooming in, zooming out was employed in this study throughout the observational phases of the research. Observations of activities and practices, documented in the doing with words and doing with bodies format, occurred from the outset, with additional zooming in foci being guided by the emerging codes and categories from the grounded theory approach. Grounded theory procedures also accommodated the zooming out observational protocol, as the continued

shadowing of the practice and people guided the development of codes and categories throughout the research process in this grounded theory study.

Interviews

Finally, this study utilizes a practice-based interview technique known as "interview to the double" (Nicolini, 2012). With this strategy, the researcher interviewed participants, in this case students, in a strategic, practice-focused manner. These initial interviews occurred after the artifact collection and observation protocols helped identify initial activities or concepts. In a traditional interview to the double, the interviewer begins the interview with a prompt, telling the interviewee to imagine that there is another person who is going to do the interviewee's job the next day. The interviewee is asked to describe every single detail of his or her daily work in such a way that nobody would know that a "double" is standing in for the actual person. By design, this structure allows the interviewee to focus on the practices associated with his or her job and on how these actual practices occur in reality, not on the perfect or ideal way to perform the practices (Nicolini, 2009a).

In this study, the researcher used the interview to the double strategy as one component of the student participant interviews. In this portion of the interview, the interviewer began by telling the participant to pretend that he or she had a twin brother or sister that nobody at school knew about. Tomorrow, this twin would be taking the place of the participant. The participant must give every detail of information that would allow the twin to take the place of the participant throughout the day without being noticed or without doing anything that the participant would not normally do. Furthermore, the interviewer asked students to identify the reasons why their double should conduct the

activities, thereby providing more information on student perspective, mindset, and meanings behind the practices.

Following the "interview to the double" question, participants received two questions aimed at understanding their decision-making practices in response to certain grades. The questions were: "If you make a 'B' on a summative test in your math class, do you a) Retake it, b) Not retake it, or c) Other. Please explain why you would make that choice." And "If you make an 'A-' on a summative in your English class, do you a) Retake it, b) Not retake it, or c) Other. Please explain why you would make that choice." While the questions arbitrarily paired math with the grade of B, and English with the grade of A-, the intention was to understand if the student's grade prompted them to retake the summative assessment, shedding light on student mindset formation.

The next question asked, "You were in 6th grade last year. If you made a 'B' on a summative test last year, did you a) Retake it, b) Not retake it, or c) Other. Please explain why you made that choice." This interview question did not ask students to pass judgment on their previous school. Instead, the purpose was to understand if students had received or accepted the opportunity to retake summative assignments from their prior experiences. As a practice-based study that was seeking to understand how student mindset and meaning developed through student interactions with the activities of standards-based grading, it was important to probe into the level of student prior experiences with the opportunities to try again on graded work.

Next, students were asked, "How often do you go to Boost? a) At least once or twice a week, b) A few times a month, c) Once a month, d) I've never been to Boost, or e) Other. Please explain." This question's purpose was to learn more information about

student patterns of remediation. While the researcher also collected numerical data about

the exact number of times that each student attended Boost, this question allowed the

researcher to hear, from the student's perspective, the conditions that caused him or her to

attend Boost and how frequently these conditions occurred. Student responses to this

question provided insight into student mindset and meaning related to opportunities to

increase one's learning.

The final interview question was "We have 'grading for learning' at RMS. Do

you like grading for learning <u>more</u> or <u>less</u> than the regular grading? a) More, or b) Less.

Please explain."   RMS does not use the terminology "standards-based grading" but

instead focuses on the learning-centric term "grading for learning." Students at this

school learned the rules of grading for learning from their teachers. For example, they

understood that they might retake a summative assignment if they were unhappy with the

grade, provided they attended Boost and completed remediation work. As another

example, they had learned that homework was not graded, but if a student did not do their

homework, they must attend Homework Lunch Club as a behavioral consequence. This

question, then, helped to evaluate a student's level of acceptance of the school's

standards-based grading, or grading for learning, protocols. The invitation for student

explanations would allow students the opportunity to reflect on the rules of grading for

learning, which in turn may lead to further understanding of how students were attaining

meaning and shaping a mindset in response to these practices.

By design, the interviews included one interview to the double scenario question

and five multiple-choice survey style questions designed to evaluate student perspectives

on the practices of standards-based grading, particularly Boost, retakes, and other

opportunities to demonstrate mastery (Appendix A). The approved protocol also allowed for the addition of semi-structured, open-ended questions to understand further how students made meaning and formed mindsets because of the practices of standards-based grading. The interviews proved to be critical pieces for the researcher's data collection and analysis, as the student participants gave in-depth, thoughtful responses to the questions and contributed immensely to researcher's ability to provide answers to the two research questions. In addition, the interviews occurred in a cozy room adjacent to the school library, and the researcher provided refreshments and a friendly environment for students. This intentionality in location and environment allowed students to feel more at ease to speak freely. Through these interviews, the researcher was able to understand how standards-based grading practices contributed to student meaning and student mindset.

Data Analysis

As outlined in the data collection graphic from Figure 3 earlier in this chapter, the grounded theory study proceeded on theoretical grounds. The focus on student meaning and mindset were the guiding purposes from the beginning, throughout the research, and at the conclusion. Activities (concepts) began to form from the early coding of the research, at which time the interview to the double and semi-structured interview protocols commenced with eight of the initial participants. The information gained from the artifacts, observations, and interviews gave meaning to the preliminary activities and allowed the researcher to develop initial ideas regarding practices and theories on how these practices shaped student meaning and mindset.

At the conclusion of first cycle coding, the researcher engaged in a thorough data analysis process to identify practices that had become evident. As designed in the previously discussed data analysis process framework (Figure 3), these practices were used as springboards to cycle back through the protocol and develop further understandings. Indeed, throughout the process, the collection of data and the analysis of the data were ongoing habits with the patterns and variations of the practices assisting in the understanding of student meaning and mindsets that developed from the practices of standards-based grading.

This chapter reviewed the methodology of this grounded theory, practice-based study. Through an intentional focus on practices and the knowledge formed by these practices, the researcher has added to the literature on student participation in standards-based grading practices at a new middle school, particularly in regards to student meaning and mindset.

CHAPTER IV

RESULTS

This chapter provides the detailed results of this study investigating the meaning and mindsets that students attained through the practices of standards-based grading. The researcher used grounded theory to understand these data, including the collection of artifacts, observations, and interviews, which were processed and initially categorized within the activities-practice structure of practice-based research. This process was fluid and iterative, and the first cycle categorization results informed the second cycle coding. Throughout the process, the researcher continued to move forward and backward through the data collection and analysis processes.

Initial Data Collection

Practice-based theory holds that the practices that occur within an organization are manifestations of the knowing and that the researcher must be concerned with studying the practices, not necessarily the practitioners (Nicolini, 2012). As such, this study began with data collection surrounding the activities that occur within this school organization, particularly regarding the standards-based grading routines of remediation and retakes of summative assessments. These events occur during flex time. Flex time sign-up sheets offered one preliminary artifact to provide data regarding student activities and practices related to standards-based grading, as they indicated the number of students selecting Boost for their flex time activity. Four weeks of flex time attendance documents were collected, with results shown in Table 1. These four weeks occurred at the beginning of the second semester of the school year, early January to early February.

Table 1

Number of Seventh Grade Students at Boost Sessions Within a Four-Week Period

Week	Day (Subject)	ELA	Math	Science
Week 1	Tuesday (ELA)	5		
	Wednesday (Math)		29	
	Thursday (Science)			0
	Friday (ELA)	16		
	Friday (Math)		27	
	TOTAL, Week 1	**21**	**56**	**0**
Week 2	Tuesday (ELA)	11		
	Wednesday (Math)		18	
	Thursday (Science)			12
	Friday (ELA)	28		
	Friday (Math)		20	
	TOTAL, Week 2	**39**	**38**	**12**
Week 3	Tuesday (ELA)	26		
	Wednesday (Math)		21	
	Thursday (Science)			0
	Friday (ELA)	8		
	Friday (Math)		10	
	TOTAL, Week 3	**34**	**31**	**0**
Week 4	Tuesday (ELA)	16		
	Wednesday (Math)		19	
	Thursday (Science)			10
	Friday (ELA)	27		
	Friday (Math)		29	
	TOTAL, Week 4	**43**	**48**	**10**
Four Week Total		**137**	**173**	**22**

As shown in the table, student attendance in Math Boost sessions was highest, with ELA attendance being second highest. Upon further examination of the weekly Boost attendance documents, there were a small number of students in seventh grade who attended both ELA and Math Boost in the same week. Furthermore, the Friday math and ELA Boost attendance showed that some of the Friday students each week had also attended that same subject's prior Boost session on Tuesday or Wednesday of that week. Table 2 identifies the number of actual students who attended a Boost session for this four-week period, counting each student only once per subject regardless of how many Boost sessions they attended in a week.

Table 2

Actual Number of Students Who Attended a Boost Session Within the Four-Week Period

Week	Subject	Actual Number of Students	Percentage of Grade Level
Week 1	ELA	16	7.6%
	Math	43	20.5%
	Science	0	0.0%
Week 2	ELA	29	13.8%
	Math	29	13.8%
	Science	12	5.7%
Week 3	ELA	27	12.9%
	Math	24	11.4%
	Science	0	0.0%
Week 4	ELA	28	13.3%
	Math	31	14.8%
	Science	10	4.8%

Total number of students in Seventh grade in all, $n = 210$.

Using this four week period as a data point, it can be said that roughly 7 – 14% of the seventh graders attend an ELA Boost session in one month, 11 – 21% of seventh graders attend a Math Boost session in a month, and 0 -11% of the seventh graders attend a science Boost session in a month. Also of note are the grading periods at RMS. Teachers give final grades at the conclusion of four nine-week quarters. During this research study, the third quarter reporting period began in early January, and concluded at the end of the nine weeks, which was mid-March. The initial data collection, then, occurred during the beginning of the reporting period. However, teachers do provide progress reports midway through the quarter reporting period, which during this quarter, occurred mid-February. Therefore, the initial data collection period occurred leading up to progress reports, which are issued to keep parents and students informed of ongoing progress during a quarter.

While Boost sessions are the specific period intended for standards-based grading remediation and retakes, the other flex time offerings were worth examining as well. After examination of the overall flex time sign-up sheets for this four-week period, the researcher found that many students attend two activities that are similar to Boost but slightly different. These activities are Catch Up and Study Focus. While Boost allows students to receive remediation from their teachers and complete retake assessments, both Catch Up and Study Focus provide students places where they can keep up with their classwork, projects, and homework. Teachers assign Catch Up, or students may self-select it, but it does not carry any disciplinary or grading penalties. Students self-select Study Focus, especially on days when students know that they have after-school events that will affect their available homework time.

Table 3

Four-week Academic Flex Attendance: Boost, Catch Up, & Study Focus, Seventh Grade

Week	Day	Boost	Catch Up	Study Focus	Total (%)
Week 1	Tuesday	5	29	18	52 (24.8%)
	Wednesday	29	25	21	75 (35.7%)
	Thursday	0	24	13	37 (17.6%)
	Friday	43	26	10	79 (37.6%)
Week 2	Tuesday	11	58	16	85 (40.5%)
	Wednesday	18	44	14	76 (36.2%)
	Thursday	12	44	25	81 (38.6%)
	Friday	48	43	9	100 (47.6%)
Week 3	Tuesday	26	23	22	71 (33.8%)
	Wednesday	21	20	18	59 (28.1%)
	Thursday	0	18	21	39 (18.6%)
	Friday	18	22	13	53 (25.2%)
Week 4	Tuesday	16	26	19	61 (29.0%)
	Wednesday	19	31	21	71 (33.8%)
	Thursday	10	33	18	61 (29.0%)
	Friday	56	17	5	78 (37.1%)

Note. Total number of Seventh grade students, $n = 210$.

In looking at the student attendance in Catch Up and Study Focus, shown in Table 3, it is clear that many more students are engaged in academic activities during the flex time than would have been indicated by just the Boost attendance numbers. Between 17.6% and 47.6% of the grade level attended an academically-focused, non-disciplinary flex time activity, on average, each day of the month during this four-week period.

As previously noted, this observation followed a practice-based observation strategy known as zooming in, zooming out (Nicolini, 2012). Initial observations, using the zooming-in lens, identified a variety of moments and observations that helped shape some initial thoughts on the RMS activities that help to form practices. Observations occurred during the generally the same window of time as initial attendance data, from early January to early/mid-February. These zoomed in observations shaped three broad categories: student interactions with grades, student interactions with assessments, and student decisions regarding remediation.

Regarding student interactions with grades, the researcher identified three notable zoomed in observations. First, some students reacted to poor grades by asking for a Retake Opportunity Reflection Sheet. In addition, students used their technology to access their grades posted on the district grading software and spoke with their teachers about needing a retake following this grade check. Finally, some students received a grade of C on a summative assessment and did not ask for a retake or attend a Boost session.

With regard to student interactions with assessments, students used the vocabulary terms "formative" and "summative" when speaking to their teachers about assessments and grades. Furthermore, some students asked for retake opportunities in multiple classes. An additional observation was that some students attempted a retake assessment without clear evidence of effort to relearn the tested content.

The researcher likewise observed student decisions regarding remediation. Students asked for additional retake times and opportunities beyond the predetermined Boost sessions, and students asked for help on confusing content or specific questions

during Boost sessions. Additionally, some students signed up for flex time intramural sports or another non-academic activity after their teacher reminded them of their grade in the class or of the impending end of the reporting period, and some students received multiple assignments to Catch Up and Homework Lunch Club by two or more teachers on the same day.

The zooming out process of this initial observation phase began to create some teleo-affective context around the observed events, words, and actions. For example, some students were clearly motivated by, or at least had accepted the structures, of the school's standards-based grading routines. These students understood the purposes of formative and summative assessment, with one student telling a new RMS student, "formatives are the fun part because you can practice without it hurting your grade. The summatives count for a grade because they're measuring if you've learned everything. The good part of summatives, though is that you can try again if you need to." Some students also internalized the notion that the school and teachers encouraged retakes. As another student said to her teacher, "I like that you, well, actually, all of my teachers, want me to retake summatives that I've bombed. But they also want me to retake when I've just had a few misconceptions that needed to be cleared up." Students also understood the preferred strategies for engaging in these retake opportunities, depending on each teacher. Students pulled retake request forms from a wall pocket in one classroom, signed their name on a section of the white board in another classroom, and dropped their summative into a "Retake Requested" tray in a different teacher's room. These behaviors indicated that students and teachers were engaging in the RMS standards-based grading routines with intention.

Meanwhile, other students did not demonstrate an increased academic motivation in response to poor grades. One student, after receiving a D grade on a summative assessment shrugged, pushed the assessment into his backpack, and said, "well, at least I didn't fail it." This same student did not attend a Boost session, nor did he retake that assessment. Furthermore, students who had C and D grades in academic classes participated in intramural athletic games instead of attending Boost. Additionally, in an academic class, a teacher reminded two female students that they should attend that day's Boost session for remediation and a retake, but one of the female students replied, "I'm not going to. My mom says as long as I have a B average, she's okay. That test didn't drop me to a C." These zoomed out observations provided the researcher with some initial theoretical thoughts and further avenues to explore as the grounded theory research continued with the identification of initial participants and a more specific zooming in, zooming out observational focus. The next section discusses these.

Preliminary Main Activities

In grounded theory research, concepts drive theoretical sampling. The collection and analysis of initial data and observations allowed the researcher to develop some preliminary concepts, which developed additional questions and focus areas for further theoretical sampling purposes. Furthermore, practice-based research focuses on the investigation of practices, which are comprised of various activities. Therefore, tentative main activities were identified, which then shaped an understanding of practices and how students used these practices to form meaning and mindset as the study progressed. The main activities, shown in Table 4, focused on activities conducted by students, as student meaning and student mindset were the phenomena under investigation in this study.

Table 4

Preliminary Identification of Main Activities

Students were:
Taking a formative or summative assessment
Asking if an assessment is formative or summative
Signing up for a flex choice
Asking a teacher for a Retake opportunity
Attending a Boost session: Attending Catch Up; Attending Study Focus
Attending a non-academic flex time activity
Asking for help with a question/standard
Asking how to raise a grade (assessment grade or overall semester/quarter grade)
Receiving a grade on a summative or formative
Retaking an assessment
Completing remediation work to prepare for a Retake
Identifying standards or learning goals
Using formative results to change learning behaviors
Using summative results to change learning behaviors
Looking up a grade in the grade reporting system
Turning in remediation work
Completing and turning in homework/classwork
Asking for opportunities for additional remediation/retakes beyond Boost time
Completing a Retake Opportunity Reflection Sheet, Request to Retest, etc.

The activities listed are in no particular order, and are instead simply a list of activities noted by the researcher through the initial zooming in, zooming out observations of students in class, in Boost, and in everyday happenings in the school. While it was tempting to begin sorting these activities into potential practices, the

researcher intentionally left this list of activities as that, simply an inventory of actions that were seen and heard in RMS as related to standards-based grading in the school. The predetermined data analysis framework, instead, next called for some participant sampling as aligned with the grounded theory approach. Therefore, following the drafting of this preliminary list of activities, the researcher next identified participants and began the participant-focused data collection procedures.

Participants

Research participants were seventh grade students at RMS from any of the eight seventh grade homeroom alternatives. From the 210 students in the seventh grade level, five high achieving students (or students with all A's in sixth grade), five medium achieving students (or students with a mixture of A's and B's in sixth grade), and five lower achieving students (or students with B's, C's, and below in sixth grade) were randomly selected for initial observation. Again, while in some schools lower achieving students would receive C's, D's, and even F's, at RMS the lowest achievement band of incoming students were in the range of B's and C's, with a very rare D. The parents of these fifteen students received and returned informed consent documents, and students signed their assent documents in the presence of the researcher as required by the guidelines of the university's Institutional Review Board.

Table 5 displays gender and academic information about the fifteen randomly selected participants. For most students, at the time of their selection as a participant, their grades in seventh grade fell among the same proficiency bands as their grades in sixth grade. In addition, it is evident that for most students, their ELA average grade was lower than their math average grade.

Table 5

Proficiency and Gender Information about Participants

ID	6th Grade Proficiency	Gender	7th Grade ELA Average	7th Grade Math Average
S1	Lower	Male	76	87
S2	Lower	Male	75	82
S3	Lower	Female	69	86
S4	Lower	Female	75	70
S5	Lower	Female	80	85
S6	Medium	Male	74	82
S7	Medium	Male	80	81
S8	Medium	Female	82	91
S9	Medium	Female	86	93
S10	Medium	Male	76	82
S11	High	Female	86	93
S12	High	Female	92	96
S13	High	Male	83	91
S14	High	Female	93	96
S15	High	Female	89	94

Initial participants were first observed in their academic flex time sessions (Catch Up, Boost, and Study Focus) every day for a three-week period. This window of time was from late February to mid-March, which is also the final three weeks of the third quarter grading period. The focus of these observations was the participants' level of engagement, or implementation of, the main activities.

All observation days repeated in a similar manner. The researcher first attended a seventh grade homeroom class when school began in the morning, watching students sign up for their flex time activities. The choice of which homeroom class to attend was determined by that day's assigned Boost day (ELA on Tuesdays, Math on Wednesdays, Science on Thursdays, and ELA and Math on Fridays), combined with the fact that there

are roughly two teachers for each of these subjects, meaning that the researcher had two homeroom options each day. Then, during that day's Boost session, the researcher attended ten minutes of each of the two teachers' Boost classes in order to provide equity between both classes. As stated previously, RMS students are accustomed to seeing the researcher in their classes throughout the day, and students, understanding that the researcher observed teachers as a daily task, did not express surprise or nervousness at the researcher's attendance. Some students, in fact, had already seen the researcher during one of their morning classes that day. The remaining ten minutes of each thirty-minute flex time period were dedicated to the observation of students in Catch Up and Study Focus as well as a brief walk-through in one or more of the non-academic flex time activities. These final observations were more rapid, with the researcher walking through rooms and flex spaces as more of a check-in procedure, which is also customary for the researcher to do.

The researcher analyzed observational data for evidence of each participants' implementation of the activities related to the school's standards-based grading protocols. Due to the variety of options available to students during flex time and the time constraint of thirty-minute flex periods, not all participants were observed during the three-week participant observation window, even though observations occurred every day Tuesday through Friday. Because of this, the researcher turned to attendance records to understand further each participants' typical choices during flex time. The researcher accomplished this by examining the attendance records for each of the fifteen participants starting back from early January when the researcher had originally analyzed all seventh grade flex time attendance documents and concluding towards the end of the participant

observation window. The four-week initial data analysis window, combined with this

three-week participant observation window, resulted in seven weeks of attendance

information for the fifteen participants. Table 6 displays this data.

Table 6

Participant Attendance at Academic Sessions During Flex Time, 7-Week Period

ID	Days in Catch Up	Days in ELA Boost	Days in Math Boost	Days in Study Focus	Total Days in Boost	Total Days in Academic Flex
S1	5	1	0	0	1	6
S2	12	0	3	0	3	15
S3	9	4	0	0	4	13
S4	10	0	9	0	9	19
S5	2	5	1	0	6	8
Group Total:	**38**	**10**	**13**	**0**	**23**	**61**
S6	1	1	3	0	4	5
S7	0	1	0	0	1	1
S8	0	1	0	0	1	1
S9	0	0	2	7	2	9
S10	5	1	3	0	4	9
Group Total:	**6**	**4**	**8**	**7**	**12**	**25**
S11	0	0	2	0	2	2
S12	1	0	0	6	0	7
S13	0	0	1	0	1	1
S14	0	0	0	8	0	8
S15	0	2	0	0	2	2
Group Total:	**1**	**2**	**3**	**14**	**5**	**20**

As shown, four of the five low-achieving participants (S1, S2, S3, and S4) along with one medium-achieving participant (S10) had five or more days of attendance at Catch Up. The teacher-assigned location for students who are missing work or are behind in their classwork. In addition, low-achieving students attended Boost twice as often as the medium-achieving students did overall. Again, Boost is student self-selected. Overall, participants attended math Boost more frequently than ELA Boost. One medium achieving student, Student 9, and two high achieving students, Students 12 and 14, selected Study Focus. Finally, all students attended at least one academic flex time activity over the seven-week period.

While the researcher was not able to observe all participants in Boost sessions during the three-week participant observation window of late February to mid-March, the participant observations that did occur provided data to further shape the developing understanding of the concepts and categories of this research. For example, Student 7 was observed in a Tuesday ELA Boost session which occurred during the week a mid-term reporting mark deadline. His interactions with his teacher provided insight into the student's motivation for attending the session. Below details the exchange between the participant and the teacher.

Teacher: *What can I help you with?*

Student 7: *I want to get a better grade.*

Teacher: *Your average is a 77 right now.*

Student 7: *Yes, I really want to bring it up to a B. Is there anything I can work on?*

Teacher: *You can work on revising your essay?*

Student 7: *Okay, I'll do that.*

(Four minutes later)   Student 7: *When is the last deadline for grades?*

Teacher: *Thursday evening.*

Student 7: *So if I turn it in tomorrow, that could help?*

Teacher: *Yes.* (Smile.) *That could help your grade.*

From this conversation, it was apparent that Student 7, a medium achieving student who had earned all A's and B's in sixth grade, was at the Boost session to find any way to bring his grade up to a B.   His motivation was not to become a better writer nor to achieve mastery of a certain standard but to earn a B in the class.

Other observations of students led to additional understandings of student interactions with the standards-based grading protocols. In one, students discussed their parents' insistence that they attend a Boost session on a particular day, and one told a friend that he or she was not going to intramural P.E. because he or she needed help on a study guide for an upcoming assessment. In another, students asked for repeated assistance from their teacher during a Boost session and reread a chapter while taking notes during a Boost class. During researcher observation days, the researcher observed Boost sessions with a range of two students to thirty students in a room. Students sometimes switched from one Boost session to a different Boost session on a Friday (i.e., leaving a Math Boost class and walking across the hall to an ELA Boost class). In general, students were observed to be extremely confident and in control of their flex time activities. Because of these observations, the researcher entered the interview phase

feeling eager to hear student accounts firsthand, as it appeared that students were behaving intentionally in their decisions with regard to standards-based grading. From observations, it seemed that many RMS students knew what they wanted to do during their Boost time and why. The interview process would shed more light on student reasoning for these decisions and on how the practices of standards-based grading had informed their reasoning.

Interviews

Participant interviews were essential to the continued theoretical sampling, analysis, and understanding of the research. Initial participant interviews allowed the researcher to hear from participants regarding their understandings of the standards-based protocols and activities of the school, which helped increase researcher momentum and excitement, not to mention researcher connections with the data. Additional interviews continued to refine and develop the researcher's concept formation and synthesis of the data. As the researcher analyzed concepts (activities), the categories (practices) formed and became better developed, which then prompted additional exploration and questions through the second cycle interview process.

Participant interviews used the approved survey-style questions listed in Appendix A as guided by an IRB-approved interview protocol. All participants heard these predetermined interview questions. However, all questions allowed the students the opportunity to explain their answers through open-ended question stems. The semi-structured nature of these questions ensured that the focus was on the topics at hand but that the researcher could ask additional questions to understand fully the participant's answer.

Each interview occurred at the students' middle school in a side room adjacent to the library. Students met the researcher in the library after school, and both the researcher and student sat in the side room to speak for approximately 45 minutes. The school district and the school principal had agreed to the students' participation in the interviews, as had the student themselves and their parents through the IRB informed consent process. At the conclusion of each interview, students received a thank you note, a small gift card as a gesture of gratitude, and verbal appreciation for their participation. The IRB-approved Parental Consent document indicated to parents that students would receive a small token of appreciation for their participation in this study. Students, upon beginning the interview, possibly concluded that the drinks and cookies were their tokens of appreciation. The gift card was not a promised reward for students but was given after the interview concluded as a sincere expression of thankfulness for the students' time and assistance.

The fifteen participant interviews occurred over the course of four weeks, from mid-March to mid-April. This window of time was the beginning of the fourth quarter grading period at RMS. There were two cycles of interviews. One cycle occurred at the end of March and involved the first eight participant interviews. The second cycle occurred at the beginning of April and encompassed the remaining seven participant interviews. The researcher began considering and internally processing the data beginning with the first interview, but a more comprehensive, deliberate coding process occurred at the mid-way point, at the end of March. In this "first cycle coding" (Saldana, 2016, p. 67), the researcher used the previously identified main activities (Table 4) as springboards for the assignment and analysis of codes. As a grounded theory study, "the

continued collection and analysis of data based on concepts derived during the research process" (Corbin & Strauss, 2015) guided the next steps. The seven interviews that occurred after the mid-way coding developed from the data and in the analysis already completed.

First Cycle Interviews

In grounded theory research, testimonials from participants provide a researcher with data points to explore further through the continued data collection and analysis project. This particular research project adhered to this expectation. During and following participant interviews, the researcher documented data, mentally processing and analyzing it throughout. Indeed, after each participant interview concluded, the researcher transcribed the interview, making connections and asking internal questions during that transcription process. While the subsequent interview did not change with regard to the questions being asked (as this only occurred after all first cycle interviews were complete), the researcher did use the information and ponderings from the prior interview to add to the developing understanding of student mindset and meaning formation in each additional interview.

Below is a summary of the first eight student interviews. It is important to note that the eight initial interviews included students who were in the categories of lower performing (students 3, 4, and 5), medium performing (students 6, 8, and 10), and high performing (students 12 and 14). The choice of which students to interview in the initial round was not made by the researcher but was instead determined by the student and parent after-school schedules and calendars.

Following the eight interview summaries is a discussion of the primary standards-based grading practices that shaped student meaning and mindset as understood from the interaction with the first cycle interview data. This discussion includes exploration of three main practices that seemed to shape meaning and five practices that shaped mindset as well as some unanswered questions that guided the next cycle of interviews and data analysis.

Student 3

Student 3 is a female student in the lower performing category. At the time of the interview, Student 3's grades were 62% (F) in ELA and 89% (B+) in Math. Student 3 had taken 13 retakes in ELA this year and 14 retakes in math. In the prior seven weeks, Student 3 had attended nine days of Catch Up, four days of ELA Boost, zero days of Math Boost, and zero days of Study Focus.

Student 3's interview was the first interview conducted, and ,therefore, it was the researcher's first insight into student perceptions on standards-based grading at RMS. Student 3 was happy and talkative throughout the interview, and she spoke easily in response to each question. When asked the interview to the double question, Student 3 talked about the protocols and rules that students follow regarding standards-based grading. For example, in order to receive a retake assessment, students must correct the formative assessment and submit these corrections with the retake request form. Student 3 was the first student to state that her decision to retake an assessment depended on her current grade in the class, which was a recurring theme throughout the remaining interviews.

Student 3 also spoke about the remediation process. She was extremely pleased to have Boost at RMS, and she discussed two primary reasons why she attended Boost sessions. One reason was to prepare ahead of time for a retake: "I go to as many Boosts as I can before the retake due date. Boosts help because I can better focus." Another reason that she attended Boost was to receive help in the current class content. "Math is hard right now," Student 3 stated. "We are learning about volume and surface area and I really don't understand it, so I'll go to Boost."

Homework was also a topic of conversation for Student 3. She expressed relief that her teachers did not grade homework in the standards-based grading process because it would lower her grades in each course. She identified that she valued homework for the practice it provided and that she could later ask her teacher for help if she did not understand the homework.

Student 3's interview provided the researcher with the first personal student contact about standards-based grading. It solidified the importance of Boost, to this student, at least, and it demonstrated student awareness of the rules and structures of RMS standards-based grading practices. It also indicated that this lower-achieving student valued the opportunities for remediation and retakes and that this student could articulate that her reasons for attending Boost were related to both grades and learning.

Student 5

Student 5, the second student interviewed, is a female student in the lower performing category. At the time of the interview, Student 5's grades were 84% (B) in ELA and 86% (B) in Math. Student 5 had taken four retakes in ELA this year and five retakes in math. In the past seven weeks, Student 5 had attended two days of Catch Up,

five days of ELA Boost, one day of Math Boost, and zero days of Study Focus. Student 5 smiled and talked easily throughout the interview. Student 5 appeared happy to be participating in the interview from beginning to end.

Student 5 identified some new understandings, including the connection between grades and standards in the RMS teacher reporting system. More specifically, Student 5 explained that standards separated the grades in the teacher grade books and that a student can retake the lowest standard, if desired.

Regarding remediation, Student 5 spoke about how Boost remediation was personal to each student and that each student (including her twin) advocates for the areas in which they, in particular, needed assistance to increase their own learning. Many of her answers spoke to the idea that she felt empowered to direct her own learning path by choosing what to study during Boost, how to study or receive help, and when to seek a retake opportunity. Furthermore, unlike Student 3, Student 5 used Boost before the first summative test in addition to preparation for a retake. She expressed that by going to Boost to learn the content to the best of your ability, it will "most likely be on the test, so you'll get it right later, which will help your grades."

Student 5 also talked about the importance of time in learning. She valued the one-on-one time that she spent with her teacher during Boost, and she remarked that Boost represented extra time to study the content. Student 5 also recognized that time can be a hindrance, especially when one needs to retake multiple assessments multiple times. She expressed dismay that she cannot complete all the retakes she would like because of the time deadlines that come with reporting periods. Boost, to Student 5, was a frequent choice during her flex time. "Most of the time," she stated, "I choose to go to

Boost, but not because I have to. I don't retake a lot of stuff. I just understand things better because of Boost."

Student 5 also identified formative and summative assessments as one of the reasons she appreciated standards-based grading. She called formatives "useful" to her learning, and she stated that formatives were used in all her various subjects. One statement made by Student 5 perfectly summarizes how this student approached the philosophy of standards-based grading: "Every day is formative." To Student 5, a clear process comes with learning and grading. Mistakes, formative assessments, summative assessments, remediation, and retakes all combine to create a learning and grading process, from the perspective of Student 5.

Student 10

Student 10 is a male student in the medium performing category. At the time of the interview, Student 10's grades were 75% (C) in ELA and 75% (C) in Math. Student 10 had taken six retakes in ELA this year and nine retakes in math. In the past seven weeks, Student 10 had attended five days of Catch Up, one day of ELA Boost, three days of Math Boost, and zero days of Study Focus. Student 10 laughed and spoke loudly during the interview, and he seemed to enjoy the interview process. While he did not go into detail or depth in his answers, he gave his answers clearly and spoke with unapologetic honesty about his perspective.

As with Student 5, Student 10 identified a concern with the regimented period that came with taking retakes in standards-based grading. Student 10 clearly objected to the fact that his teachers imposed time restrictions on requesting and completing retakes. Interestingly, however, Student 10 indicated that he rarely attended Boost, which is the

vehicle for engaging in the retake process. Whereas Student 5 felt that she wanted to continue attending Boost and taking retakes multiple times but that time sometimes prevented her from doing it all, Student 10 seemed to desire a retake opportunity on his own terms.

Regarding Boost, Student 10 quickly stated that if his twin was trying to trick the teachers into thinking it was him, the twin should sign up for Chill or Gym, but not Boost, because "the teachers would know it wasn't me." Student 10 spoke about the hoodie that he wears every day and about hanging out with his friends. His body language (gestures, posture in his chair, facial expressions) led the researcher to conclude that Student 10 perceived himself as popular and cool. Of all the students interviewed, Student 10 was the most removed from standards-based grading, and at one point, he spoke about the protocols of standards-based grading in a removed, hypothetical manner, talking about what one *should* do to engage in the remediation process and what he probably *needs* to do to improve his grades.

As with the other students, Student 10's decision about whether or not to retake a summative assessment depended on his current grades in the class, and he stated his appreciation for the opportunity to raise one's grade that comes with standards-based grading. Throughout the interview, Student 10 made statements that indicated a clear understanding of the protocols for standards-based grading and remediation at RMS but also indicated that he often chose to do things that did not improve his learning or grades, a fact that he accepted and owned.

Student 4

Student 4 is a female student in the lower performing category. At the time of the interview, Student 4's grades were 78% (C) in ELA and 68% (F) in Math. Student 4 had taken seven retakes in ELA this year and six retakes in math. In the prior seven weeks, Student 4 had attended 10 days of Catch Up, zero days of ELA Boost, nine days of Math Boost, and zero days of Study Focus. Student 4 was extremely happy and excitable during the interview. The interview to the double question especially peaked her interest. She had a fun time manipulating her own voice as she spoke to her imaginary twin and enjoyed imitating her teachers' voices and words as they might sound during Boost sessions with her twin.

Student 4, like Student 3, identified that time was an important factor in her learning. Her answer to the interview to the double question indicated that the twin would ask for help multiple times throughout each Boost session, as Student 4 needed ongoing assistance and teacher support throughout each step of the remediation process. Student 4 said, "It usually takes a lot of time for me to get it." Student 4 also spoke about the way that she engages in practice in order to increase her learning. Many times in the interview, Student 4 remarked that when she does not understand something, she goes to Boost, asks the teacher for help, takes notes, works on practice problems, or reviews the homework again. She spoke about her frequent confusion with her classwork and homework, and about the fact that she has "misconceptions" at times. Student 4 accepted that she made mistakes but appreciated that mistakes were a part of the learning process for herself and others. Student 4 also pointed out that she made many mistakes on her

homework, but she was glad that it did not affect her grade. She could go to Boost to help her understand the homework material instead.

To the researcher, Student 4 seemed to struggle to learn new content. However, Student 4 had a bright, energetic personality and was clearly engaged in the learning, standards-based grading, and remediation processes at RMS. Like Student 3, Student 4 attended Boost before taking her first summative assessments, and grades were a determining factor in the choices that she made regarding flex time and retakes. She valued having good grades not only because she wanted to avoid the consequences that she would receive from her parents or track coach but also because she herself wanted good grades. She identified that studying and doing retest work helps her improve her grades.

Student 12

Student 12 is a male student in the high performing category. At the time of the interview, Student 12's grades were 92% (A) in ELA and 99% (A) in Math. Student 12 had taken two retakes in ELA this year and zero retakes in math. In the prior seven weeks, Student 12 attended one day of Catch Up, zero days of ELA Boost, zero days of Math Boost, and six days of Study Focus. Student 12 was contemplative and deliberate as he gave each of his answers.

Student 12 stated that he attended Boost a few times a month and that it was helpful because of the extra time that Boost grants. However, he also added that the remediation and practice are things that he could easily do at home too. He identified his primary reason for going to Boost is when he didn't do well on an assignment or when he was out a day and needed to make up work. As Student 12 stated, "I don't usually have

that much trouble with anything." Student 12 seemed to have an easier time learning, and his mannerisms, vocabulary, diction, and thoughtfulness indicated a sense of maturity to the researcher.

Student 12 appreciated the opportunities for retakes, and he remarked that he liked standards-based grading more than traditional grading. While Student 12 did not struggle to learn or to earn A's, he stated, "some things are different from person to person. Like they might not be that good at homework, and that shouldn't affect their grade. [Standards-based grading is] grading what you know and learned, and get a grade for it. It's just simple and easy and clear." This perspective, coming from a high achieving student, indicated his empathy for those who struggle to learn and placed his value on clarity in the grading process that comes with assigning grades based upon student learning of the material.

Student 8

Student 8 is a female student in the medium performing category. At the time of the interview, Student 8's grades were 84% (B) in ELA and 89% (B) in Math. Student 8 had taken eight retakes in ELA this year and four retakes in math. In the prior seven weeks, Student 8 had attended zero days of Catch Up, one day of ELA Boost, zero days of Math Boost, and zero days of Study Focus. Student 8 was quiet and reserved. She did not appear nervous or anxious. She smiled politely and answered succinctly.

Student 8 was the first medium performing student interviewed who indicated that she used Boost to prepare for an upcoming summative test that was being given for the first time as well as when she wanted to take a retake assessment. As with the other

students, Student 8 decided to request a retake depending upon her current grades in that particular class.

Student 8 gave a clear description of how a Boost session might look and what students might be working on. Some students would be taking a retake assessment while others are studying their notes for an upcoming test. In her math Boost sessions, the teacher was available to help answer questions and provide remediation, but it was up to the student to identify what he or she needed help with. In her English Language Arts Boost sessions, the teacher mostly walked around and assisted students individually, but if many students were struggling with the same concept, the teacher would call the students to the group table to assist the small group.

Student 8, like others before her, noted the importance of time for different students' learning needs. She stated, "Some people don't learn the first try, and even if they do learn it, it takes them more time. You can't postpone a test. [Retakes] give you another chance to show what you learned." These statements, besides indicating the importance of time in learning, also reflect that the student understands the learning process as a whole. Different students will take different amounts of time to learn the content, and the assessment of their learning should occur more than one time.

Student 6

Student 6 is a male student in the medium performing category. At the time of the interview, Student 6's grades were 75% (C) in ELA and 82% (B) in Math. Student 6 had taken eight retakes in ELA this year and seven retakes in math. In the prior seven weeks, Student 6 had attended one day of Catch Up, one day of ELA Boost, three days of Math Boost, and zero days of Study Focus. Student 6 is an English Language Learner.

Student 6 was on the shy side as compared with other participants, but he smiled and maintained unwavering eye contact throughout the interview. The directness and honesty with which Student 6 answered the questions, in fact, led the researcher to feel that Student 6 felt very connected to the standards-based grading process and was appreciative of the opportunity to share his perspective with the researcher in an interview.

Unlike Students 5 and 10, Student 6 felt that there was plenty of time to retake assessments. He stated, "for me, I like that you can choose to redo a test at any time," and later "Here, you can always retake." These statements seemed to contradict previous statements charging teachers with overly strict timeframes for remediation.

Student 6 stated that he attended Boost sessions once every two weeks. The reasons that he attended these remediation sessions were to prepare for upcoming first summative assessments (like Students 4, 5, and 8), to retake a summative assessment, or to receive help from the teacher in order to better understand the content of the class.

One powerful part of Student 6's interview occurred at the very end when the researcher asked if he liked standards-based grading more or less than traditional grading. Student 6, in his soft-spoken though forthright manner, replied that he likes the standards-based grading method. His reasons were that "you can always learn more. You can always do better. If you're struggling with something, they don't count that off. It's okay to struggle. It's good to struggle." These words marked his understanding of the value of time in learning, as well as his appreciation for "struggling," which he felt was a beneficial part learning process.

Student 14

Student 14 is a female student in the high performing category. At the time of the interview, Student 14's grades were 92% (A) in ELA and 96% (A) in Math. Student 14 had taken four retakes in ELA this year and one retake in math. In the prior seven weeks, Student 14 attended zero days of Catch Up, zero days of ELA Boost, zero days of Math Boost, and eight days of Study Focus. Student 14 smiled and talked easily throughout the interview.

During the interview, Student 14 spoke about a math test that occurred in the beginning of the year. Student 14 did not earn a good grade on that test because, as she said, the test was harder than she thought it would be, and she did not understand the content as well as she thought she did. Her mother asked her to retake the assessment, but Student 14 said that she would have retaken it even if her mother had not made her. This episode seemed to make an impact on Student 14, as she has attended math Boost sessions in preparation for first summative assessments from that point forward. Besides trying to avoid the need for a retake (and the cumbersome retake packet that precedes the retake test, according to Student 14), she attended Boost because she wanted to get everything correct on the test. She stated that a B would prompt her to request a retake, as she wants to earn all A's in her academic classes.

Student 14 stated that she preferred academic flex activities, especially Study Focus, because it was quiet and she could get her homework done. Homework was a subject of interest for Student 14. Her goal was to complete her homework at school so that she could do other things at home, such as hang out with her friends. While other students had expressed opinions on whether or not homework should be graded, Student

14, a high performing student, had a clear perspective on the concept, one that made a connection between grading, learning, and the role of homework in the process. Student 14 stated, "We don't have homework grades, so it's harder to get a good grade. But I think that homework not being graded is more helpful for learning because the tests help you learn the subject more than the homework."

First Cycle Coding and Data Analysis

This research study began with the collection and examination of artifacts, including attendance documents for schoolwide flex time activities, observations, and the preliminary identification of main activities which would together comprise the standards-based grading practices of the school, which would in turn affect student mindset and meaning. These early main activities, listed in Table 4, provided a strong starting place for the first cycle coding of the initial interviews. The researcher sought evidence of how these activities of standards-based grading shaped practices as well as how these practices provided evidence about student knowledge structures. According to the work of social ontologist Schatzki (2006), four modules contribute to the structure of a practice: how individuals understand the actions involved in the practice, the rules that individuals abide by (or disregard) with respect to the practices, the teleological-affective components (which include motivational, emotional, and customs-related factors, among others), and the larger understandings of what the practice means or the nature of the practice in the world. Keeping these four modules of practice in mind, the researcher then coded and studied the first eight interviews.

The first cycle coding of interviews resulted in some intriguing understandings along with many unanswered questions to explore during the second cycle of interviews.

With regard to research question #1, the researcher identified three main standards-based grading practices that were shaping how students made meaning.

One identified practice was that students used practice opportunities (homework, classwork, and Boost sessions) to strengthen their understanding before the first summative assessment. These students mentioned that practice opportunities such as Boost allowed them to have one-on-one time with the teacher, extra time, improved conditions for focusing, the ability to correct prior mistakes or misconceptions, and additional examples with which to practice applying their skills or additional examples that weren't solved in class. As Student 6, a medium performing student said, "Sometimes when I have to take a test, I go [to Boost] for the teacher to help me out on the subject before the test. Sometimes if I'm just not understanding the subject, I go." Furthermore, students used formative assessments as opportunities to learn. "In science, we do formatives on vocabulary, and that helps me understand the main ideas and words I need to know," said Student 5. "In ELA, we take a couple formatives and summatives for each standard. The formatives are very useful."

Similarly, students used practice opportunities and formative assessments as methods to increase their understanding before the second summative assessment or the retake assessment. Many students mentioned the practice of using Boost and other practice times as ways to prepare for a retake summative assessment. In addition, the process of actively studying and doing the retest work also strengthened student understanding before a retake assessment. As Student 12 stated with regard to a practice packet that is given before a retest, "you probably need that practice if you're retesting." Student 14 explained it this way: "You have to study again and do the things that the

teachers make you do to help you learn it again. First they make you correct your test, then they'll give you a worksheet to do."

Another identified practice appeared to be shaping student meaning related to grades. Students decided to retake summative assessments depending upon their current grades in the class and how much the summative grade would affect their overall average. Particularly in response to the question about scoring a B on a summative assessment in math class, students answered that it depended on how low the B was. Student 3 said, "I want my grades to be high. If it was a high B, like a B+, I would be okay with that. If it's an 81 or 80, I would retake it." For some students, the grades were motivating to themselves only, but for others, their parents and athletic coaches monitored their grades, which caused the students to be focus on their grades. Student 4 said, "If it's lower than a B, I would retake that. I don't want to be on probation because then I can't compete in any of the track meets and I can't practice. In track you can't get lower than a C." In every interview, students weighed their decision to retake a summative test using their current grade in the course overall, how much the summative assessment grade would affect their average, and the consequences that would follow that average grade.

Regarding research question #2, the preliminary coded interview data showed some interesting patterns in how students were developing a mindset. One practice of standards-based grading that seemed to shape student mindset related to time. Quite a few students commented on the role of time in their learning process and in the grades that reflect their learning. As Student 8 noted, "Some people don't learn the first try, and even if they do learn it, it takes them more time." Students spoke about grading for

learning giving them the time they (or others) needed to learn the content, and students seemed to understand that the learning process is dependent upon time as opposed to one's potential ability.

Similarly, another standards-based grading practice that shaped student mindset related to opportunities to learn. Students identified this notion of practice as an important factor in an individual's learning. As Student 5 described the practice that occurs during a Boost session, "The teacher explains the questions and works through it with you. Me and my friend set a goal. We agree what to work on, what we need help on. A little bit of classwork, and maybe a test that we didn't do so well on. The goal is what we need to work on." Even Student 10, the student who seemed the least engaged in the standards-based grading process, spoke about the value of practice in learning difficult content: "This week's work is hard, so I need to go to Boost this week. We're learning about area, surface area, and volume." He continued, "you should go over the stuff they give you and try to get better at it. Go over the book again and again, in all subjects." Overall, students knew that the more interaction they had with the content and skills, the better they were able to master the expectations.

A third mindset-related quality that seemed to be apparent in the coded interview data was with regard to trying again. Students associated trying again on homework, classwork, formative assessments, and summative assessments as ways to strengthen their understanding and to learn the content. As Student 5 stated, "You always have more of an opportunity to learn more about it. If you're not understanding anything, just go to Boost." Even Student 12, the student who noted that he rarely struggles to learn

anything, said, "on a test, if I'm having trouble with it, I learn it and can retake it." He also commented, "I like the retakes because if you're having a bad day or stressing out about it, you can try again."

The notions of self-empowerment and self-determination also began to emerge through student answers regarding standards-based grading. Students spoke about choosing remediation opportunities in order to learn the material or choosing non-academic options if they did not feel that they needed assistance. Students did not indicate that they could not learn the content, just that they had the power to make decisions for themselves regarding their approach to remediation and their grades. Student 6, who had taken eight retakes in ELA and seven retakes in math this year, stated, "I like the flex because you can choose where to go. I like to choose. We have more freedom and responsibility." Student 5 commented, "You have another opportunity to get your grade up. You aren't just sitting there doing nothing about it."

Finally, students embraced the belief that making mistakes is part of the learning process. Because the teachers and school allowed and facilitated retakes, it seemed to be shaping student mindset that it was acceptable and even expected that one will make errors or that one might not demonstrate mastery on the first attempt at a summative assessment. Student 14 was the high performing student who earned a poor grade on a summative assessment early in the year but studied for a retake and "got a better grade on the retake." In Student 6's words, "you can always retake. You can always learn more. You can always do better."

Table 7 shows these preliminary practices of standards-based grading that were shaping student meaning and mindset, at least from the data analysis in the first cycle of interview coding.

Table 7

Preliminary Practices Identified from First-cycle Interviews

Preliminary Student Practices of standards-based grading that create meaning:

1. Using practice opportunities (homework, classwork, Boost sessions) and formative assessments as opportunities to strengthen one's understanding before the first summative assessment
2. Using practice opportunities (homework, classwork, Boost sessions) and first attempts at summative assessments as opportunities to strengthen one's understanding before a retake of a summative assessment
3. Deciding to retake a summative assessment based on one's current grades in the class and the potential impact of the summative grade on the overall grade

Preliminary Student Practices of standards-based grading that shape mindset:

1. Using **time** to increase learning and grades
2. Using **practice** to increase learning and grades
3. Trying again on homework, classwork, and assessments for grades, learning, and/or mastery of content
4. Making one's own decisions and choices to affect (or not affect) one's learning
5. Accepting one's errors and first summative attempts as a recognized part of the grading and learning process

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However, through the data analysis and evaluation process, the researcher felt a lack of information regarding student understanding of other standards-based grading traits. In particular, the researcher felt a need to understand more regarding student

perspectives on formative and summative assessments, the value of grades versus learning, the role of standards, and the time that students need to demonstrate mastery of a learning objective. While at least one or two students mentioned each of these topics, not enough data existed for the researcher to understand the patterns of these important components of standards-based grading. The beginnings of categories were forming, but without further information from students, it was impossible to consider these data points as anything other than outliers. For this reason, the researcher decided to include questions regarding these four question categories in the second cycle interviews. The IRB-approved protocol stated: open-ended interview questions will explore the students' understanding as to why the standards-based grading practices are used, if or how these practices benefit the student or other students, how formative assessment is used and why, what the student would do if they received a poor grade on a summative assessment, and what the students does if they receive an average or high-average grade on a summative assessment. As such, the researcher used the semi-structured nature of the interview protocol to inquire further into these topics during second cycle interviews.

Second Cycle Interviews

The remaining seven interviews occurred following the first cycle interview coding and data analysis. As with the first cycle interviews, each interview occurred at the students' middle school in a side room adjacent to the library. Students met the researcher in the library after school, and both the researcher and student sat in the side room to speak for approximately 45 minutes. The school district had agreed to the research's proposed methodology, which included student participation in interviews (Appendix C), as had the student themselves and their parents through the IRB informed

consent process. At the conclusion of each interview, students received a thank you note, a small gift card as a gesture of gratitude, again not as a previously stated token of appreciation, and verbal appreciation for their participation. Presented next are the summaries of each of the remaining seven interviews followed by tables showing the coded data points from the fifteen interviews.

Student 9

Student 9 is a female student in the medium performing category. At the time of the interview, Student 9's grades were 90% (B+) in ELA and 96% (A) in Math. Student 9 had taken five retakes in ELA this year and zero retakes in math. In the prior seven weeks, Student 9 had attended zero days of Catch Up, zero days of ELA Boost, two days of Math Boost, and seven days of Study Focus. Student 9 smiled, talked easily, and appeared relaxed throughout the conversation.

Student 9 added an interesting perspective, one that the researcher had not heard in prior student interviews. More than any other student, Student 9 expressed the importance of learning over the importance of grades. "There's one thing I learned from one of my teachers," she said. "It's the knowledge you get, not the grade. If you want to retake it, it should be for the knowledge you get, not the grade. I believe that in my heart. The grade in a class reflects the knowledge that you learned." This heartfelt statement indicated that the student had constructed an understanding of the learning process that connected trying again with an effort to increase one's knowledge and that grades would naturally follow this effort because the grades indicate one's level of learning. To the researcher, this was powerful. It indicated that, to this student, grades at RMS reflected

the learning that a student had gained, and teachers were helping students connect grades with learning.

Given this, it was not surprising that the student had not capitalized on the opportunity to increase her grades as much as other students had. She stated that she did not typically retake assessments, but would instead see mistakes and think to herself, "okay, I'll fix that in the future." Student 9 explained that the only reason she went to two Boost days was because her teacher asked her to attend Boost to finish tests that she had missed due to absences. "I don't retake," she stated simply.

Further understanding of this student's belief in standards-based grading philosophies occurred when the student answered the new question about the difference between formative and summative assessments. She said, "I don't get as stressed about the formatives, but I try to take them as though they were the real thing. They are to get us ready for the real thing, to see what to expect." Student 9's appreciation for the importance of formative assessments further indicates why retaking summative assessments was less important to her. She had fully engaged with the formative assessment process, allowing herself to make adjustments and learn during the practice phases of learning, and felt more confident in her ability to demonstrate her knowledge on the summative assessment because of her interactions with the precursor formative activities. To the researcher, this student's responses demonstrated a high level of student understanding of the protocols and reasons for standards-based grading as taught by her teachers and highlighted the student ownership and understanding of the learning process that seemed to be occurring with students.

As a final note, Student 9 made an interesting comment when asked about the difference between standards-based grading, which she was experiencing as a seventh grader, and traditional grading, which she encountered as a sixth grader. Student 9 stated, "It's interesting. There is one subject I think I completely changed in. Last year, I got an 83 in math. This year, I am getting a 97 in math." While there are a multitude of reasons why this difference may be occurring (content, teacher, and maturity, among others), it is interesting to consider that the clear cycle of formative assessment, feedback, and summative assessment might have played a role in this change for Student 9.

Student 1

Student 1 is a male student in the lower performing category. At the time of the interview, Student 1's grades were 78% (C) in ELA and 87% (B) in Math. Student 1 had taken 11 retakes in ELA this year and three retakes in math. In the prior seven weeks, Student 1 had attended four days of Catch Up, one day of ELA Boost, zero days of Math Boost, and zero days of Study Focus. Student 1 presented a kind and interested persona in his interview. Student 1 was extremely likable, and it seemed clear that despite his learning challenges, for teachers and others it was difficult not to like him. Student 1 was succinct in his answers overall. He answered some questions in one to three sentences followed by a statement that he had nothing else to add.

Regarding retakes, Student 1 expressed difficulty with the prospect of retaking summative assessments that were anything less than failing because trying to learn new content (during regular class time in math) while simultaneously relearning prior content (during Boost) was confusing to him. "I tried that once, and it wasn't good," he said.

Student 1 indicated that he felt ownership of his learning process. When teachers advised him to attend remediation sessions, Student 1 said, "Teachers usually tell me I should go to Boost. I think about it and then decide." While this response might make an educator cringe, it nevertheless indicated that Student 1 understood that his potential for learning was in his own hands, a powerful understanding for middle school students to possess. Along these lines, Student 1 stated (prior to the added question about formative and summative assessment), "I like the formative part of grading for learning. If it's formative and I failed it, I know I'm going to need to study hard for the summative. The formative tells me what I still need to practice and learn." These words indicate that Student 1, a fun-loving young man as evidenced in his interview, understood that the processes of standards-based grading clearly showed him his learning needs, and that he had the power to study and learn based upon these needs.

Student 15

Student 15 is a female student in the high performing category. At the time of the interview, Student 15's grades were 89% (B) in ELA and 91% (A) in Math. Student 15 had taken four retakes in ELA this year and one retake in math. In the prior seven weeks, Student 15 attended zero days of Catch Up, two days of ELA Boost, zero days of Math Boost, and zero days of Study Focus. Student 15 is an English Language Learner. Student 15 smiled and talked easily throughout the interview.

Student 15's responses were brief, only providing one or two sentences in reply to each question, other than the question about how often she attends Boost. After hearing this question, Student 15 discussed a time in her math class when she scored a D on a summative assessment on step equations. In her words, "I normally don't get D's a lot so

it kind of scared me." To be eligible for the retake of the summative assessment, she had

to do certain problems, complete a work packet, and redo a pertinent piece of homework.

In Student 15's words, "I learned how to do step equations. If I really tried I could

probably pick up anything. I'm just glad I had the chance to show that with step

equations. That D would have held me down otherwise." Student 15's discussion of this

incident indicated her appreciation for the learning and remediation process, and while

she said that most concepts came to her easily, she placed value on the opportunity to try

again without having one grade be the final judgment on her level of mastery.

As with all students from first cycle interviews, Student 15 decided on retaking an

assessment depending upon her current grades in the class. Her goal, she stated, was to

earn at least a B in the class, but she preferred to get A's. Overall, Student 15 was

cognizant of her learning needs and of the RMS protocols for standards-based grading.

Though not overly talkative in response to questions, possibly due to language, Student

15 was clear in her answers. She appreciated that standards-based grading reduced the

importance of one single poor grade, it allowed for retakes, and it gave each individual

the time they needed to learn. Furthermore, she made her own choices for remediation

concerning her level of performance, and she expressed a belief in her ability to learn

more and demonstrate this increasing level of mastery.

Student 2

Student 2 is a male student in the lower performing category. At the time of the

interview, Student 2's grades were 75% (C) in ELA and 81% (B) in Math. Student 2 had

taken 13 retakes in ELA this year and three retakes in math. In the prior seven weeks,

Student 2 had attended 12 days of Catch Up (all assigned by his ELA teacher), zero days

of ELA Boost, three days of Math Boost, and zero days of Study Focus. Student 2 was open to speaking throughout the interview but seemed less eager and pleasant than previous students. As with the prior two interviews from cycle two, Student 2 gave terse answers, sometimes only a few words in reply, and did not elaborate on his responses, even when moments of silence might have prompted others to do so.

In first cycle interviews, some students discussed the value of having time to practice and demonstrate mastery through the standards-based grading process. Student 2, on the other hand, dismissed this as a waste of time, essentially. He said, "I wouldn't want to take all that time to do all that. The retake packet, plus four pages in the math textbook, and show up on certain Boost days, and then show up on another day to take the test? It's so time-consuming! I like choosing other things." As with Student 1, the choices made by Student 2 are not ones that teachers would support if given the voice, but Student 1 understood the steps involved in the standards-based grading remediation process and was able to weigh the value of these steps with respect to the tradeoffs that he would be making with his time. This spoke to the student's sense of ownership and direction over his personal learning process and signified his understanding of the practices of standards-based grading.

Student 7

Student 7 is a male student in the medium performing category. At the time of the interview, Student 7's grades were 79% (C) in ELA and 82% (B) in Math. Student 7 had taken five retakes in ELA this year and two retakes in math. In the prior seven weeks, Student 7 attended zero days of Catch Up, one day of ELA Boost, zero days of Math Boost, and zero days of Study Focus. Student 7 was very comfortable talking with

the researcher. He laughed and expressed animation in his answer, and his humility and honesty cast him as likable and endearing.

Student 7 was highly aware of his grades in every one of his classes. He reported that he checked his grades on the online reporting system every night so that he knew what he needed to focus on the next day. In addition, his parents checked his grades, and if he was earning anything lower than a B in any of his classes, his parents took his phone away. Student 7's focus on grades resulted in a preference for summative assessments because "they give me grades. They keep me grounded."

As with other students, Student 7 attended Boost sessions and participated in retakes. Also similar to others, the time factor, along with his current class standing, influenced his decision on whether to retake an assessment. "If I get a B, that's good for me in seventh grade," he said. "I can't waste my time because I got a decent grade. If I got a 70 or 75, I'm definitely retaking." Student 7 went on to explain that seventh grade had been an academically challenging year for him but that he liked to "work harder because you learn more and get better prepared for life."

Overall, Student 7 was enthusiastic about the standards-based grading structure at RMS. He spoke highly of his teachers and their care for students, and he remarked that they encouraged students to continue learning. He appreciated that students had the opportunity to direct their own learning choices. While he wished that teachers would grade homework because it would be an easy way to increase his grades, he spoke highly of the retake opportunities that come with standards-based grading. Student 7 also clarified that teachers used standards as learning targets, and they taught and assessed students according to the standards. Student grades reflected what a student had mastered

with respect to each standard, and a student could continue to learn and demonstrate proficiency in each standard through the standards-based grading process, according to Student 7. Though Student 7 focused on grades more than some other students, he demonstrated an internalized understanding of how the standards-based grading process worked to affect student learning.

Student 11

Student 11 is a female student in the high performing category. At the time of the interview, Student 11's grades were 87% (B) in ELA and 90% (B) in Math. Student 11 had not taken any retakes in ELA this year but had taken three retakes in math. In the prior seven weeks, Student 11 had attended zero days of Catch Up, zero days of ELA Boost, two days of Math Boost, and zero days of Study Focus. Student 11 laughed frequently and spoke easily.

Unlike Student 7, Student 11 did not focus on her grades. To Student 11, learning was more important than the grade. She spoke about not retaking assessments just to earn a higher grade. Instead, she would look at her errors, understand why she made those errors, and be satisfied with the learning that just occurred. Occasionally she did retake an assessment, Student 11 reported. But Student 11 also understood that retakes were important to others. "Our grades reflect our learning," she said. "For some people, if you see they retook something, you can definitely see how much someone learned. It shows the growth, and that is really great. It definitely reflects how much they learned, and how much effort they gave. Maybe they rushed through the first time. I like to learn a lot. I tell myself not to worry about my grade. I tell myself I want to learn." Student

11 appreciated that growth was a positive component in the learning process and felt that all students should receive increased grades when they made that growth.

Regarding flex time, Student 11 typically did not attend Boost during this time. Instead, she usually chose to go to the library to do her homework or study her notes. Lately, however, Student 11 had been starting to attend Boost in order to prepare for the upcoming state standardized testing. She enjoyed the opportunity to review the content before the most critical summative test of the year.

Student 11 spoke about her own learning during the interview. She explained that she had an easy time learning in math but that ELA was sometimes more challenging for her, particularly the grammar rules. But, she added, "when I go back and see what I need to fix, it helps me learn it. The more I practice difficult things, the more I learn it." Student 11, a high performing student, used practice as a way to learn demanding content, and she felt confident in her ability to learn because of this focus on practice.

Student 13

Student 13 is a male student in the high performing category. At the time of the interview, Student 13's grades were 81% (B) in ELA and 88% (B) in Math. Student 13 had taken six retakes in ELA this year but had not taken any retakes in math. In the prior seven weeks, Student 13 had attended zero days of Catch Up, zero days of ELA Boost, one day of Math Boost, and zero days of Study Focus. Student 13 was extremely polite and reserved. He answered all questions patiently and carefully.

During flex time, Student 13 typically chose to play intramurals to get some activity but would occasionally go to Study Focus to get his homework done. He remarked that he would not retake an assessment with a grade of an A or B because an A

is already showing mastery and that he could easily bring up a B with his next summative grade. Student 13 did value the ability to retake an assessment if needed. "If you're struggling on a topic, you can learn it again and retake the test and get it solid," he said. "I do retakes because I will learn it better, which means I'll get a better grade on the test."

Like Student 11, Student 13 placed more importance on learning than on grades. He stated that he preferred formative assessment to summative assessment and also stated that summative assessments were "just for the grade." After noting this, though, he paused for a moment, and then added, "Well, to show your level of mastery." Student 13, though not worried about his grades, had connected the grades assigned by teachers with the demonstrated level of student learning. His preference was for formative assessments, the practice portion of learning. At first, he eschewed summative assessment as being purely grade-driven, but he then realized that the true purpose of summative assessment was to account for learning. This showed that Student 13 had internalized the fundamental intentions of standards-based grading.

Second Cycle Coding and Data Analysis

With all fifteen participant interviews completed, the researcher coded and analyzed the seven second cycle interviews. The researcher maintained previously identified codes and categories, but additional codes and categories began to develop through the analysis of the second round of interviews. The researcher analyzed all of the data from both first and second cycle interviews and developed tables to display the data results from the coded interviews. These tables are organized into three themes: student meaning (Table 8), grading for learning (Table 9), and mindset (Table 10).

Three primary structures developed student meaning about standards-based grading at RMS: practice opportunities, Boost, and retakes. Regarding practice, students used practice before their first summative assessment and before a retake of a summative assessment, and some students leveraged the formative assessment process to gain practice from these precursors to summative assessment. A quick glance at Table 8 shows that primarily lower and medium achieving students were engaging in this kind of practice, though a few higher achieving students did use practice as a strategy before a first summative assessment. Regarding Boost, the researcher sorted the various student responses to when they would go to Boost and why as well as what they might choose instead of Boost. Similarly, the researcher coded data on what students actually do during Boost time, which allows for more insight into the role of student voice in their learning process. Again, Table 8 shows that primarily lower and medium achieving students engaged in the Boost practices but that there were students from all achievement levels who selected other activities during their flex time. Finally, regarding retakes, it was unanimous that students decided to take a retake depending on their current grade in the class and on how that assessment grade would influence their average. Lower performing students commented about the necessity for retakes in order to avoid consequences from their parents, teachers, or coaches.

Table 8

Participant Responses Regarding Student Practices that Create Meaning

Student	Using practice before the first summative	Using practice before a retake	Using feedback/formative to increase learning; Leveraging the formative/summative process	Going to Boost because of confusion with content/to learn content	Going to Boost because of poor grade	Choosing to go to Boost	Choosing something other than Boost	Going to Boost because a teacher tells you to	Doesn't go to Boost, really	During Boost, self-selecting what you want to work on	During Boost, doing what a teacher tells you to work on	Deciding whether to take a retake depending on current grades in the class	Doing your best the first time to avoid the Retest work/time	Okay if grades don't reflect one's learning	Keeping grades up to make parents, teachers, coaches, or self satisfied; Avoiding consequences	Going to a school consequence (Catch Up, HLC) as a result of poor grades/effort
	Practice			Boost								Retakes				
1			●				P.E.		●		●	●				
2							P.E.		●			●			●	●
3		●	●	●	●	●				●		●		●	●	
4	●			●	●	●				●		●			●	●
5	●	●	●	●		●				●		●		●		
6	●	●		●	●	●	P.E.				●	●				
7		●		●	●	●				●		●			●	
8	●	●		●		●			●	●		●				
9			●				strings					●		●		
10							fun	●	●		●	●				
11	●						library					●		●		
12							P.E.	●	●			●	●			
13							P.E.					●				
14	●						h.w.					●	●			
15							strings					●				

The next set of information was regarding standards-based grading in general, or grading for learning. For this, the researcher coded and analyzed student perspectives on the value of grading for learning. Some students, primarily from the lower performing bands, appreciated that grading for learning helps their grades. On the other end of the spectrum, higher performing students valued grading for learning because it allowed them to learn more or learn better. Across the achievement levels, however, students felt that the strongest attribute of grading for learning was that it allowed for retakes. As shown in Table 9, eleven of the fifteen students specifically commented on this benefit. Furthermore, more students preferred grading for learning over traditional grading, with some students being undecided on the question. Homework was a discussion point for students, as well, with some students wishing that their teachers graded homework while others were glad that it was not graded.

Table 9

Participant Responses on Grading for Learning

Student	Grading for learning helps grades	Grading for Learning has Boost	Grading for Learning allows retakes	Grading for Learning allows you to learn more/better	Grading for Learning uses formative and summative process	Grading for Learning reduces the pressure	Prefers Grading for Learning	Prefers traditional grading	Wishes homework was graded	Doesn't want homework graded
			Grading for Learning						*Grading HW*	
1					●		●			●
2								●	●	
3	●	●	●				●			●
4	●		●				●			●
5	●	●					●			
6	●		●				●			●
7			●	●			middle		●	
8		●	●				middle		depends	
9			●				middle			●
10	●		●				middle		depends	
11			●	●			●		●	
12	●		●				●			●
13			●	●			middle			
14				●			●		●	
15			●			●	●			

Lastly, the researcher processed the data that indicated student mindset formation. Categories related to mindset were the time factor with regard to learning, effort, self-determination, errors, grades and learning, and avoidance behaviors. As shown in the self-determination portion of Table 10, many students spoke about their role in their learning process and about their ability to make decisions to affect their success. Broadly speaking, more lower and middle achieving students spoke about the role of practice and effort in learning, and more middle and high achieving students placed value on learning over grades. Lower performing students spoke about errors and mistakes, and more lower performing students identified subjects that were difficult for them.

Under the umbrellas of meaning, grading for learning, and mindset, these categories became the areas of focus and discussion for the final stage of the research. Through intensive study, reanalysis of the data, pattern finding, and thought, the researcher answered the two research questions. The following chapter provides a thorough overview and discussion of these conclusions.

Table 10

Participant Responses Regarding Student Practices that Shape Mindset

Student	Time for Learning		Effort		Self-determination		Errors	Grades and Learning		Avoidance/ Explanations	
	Using time to increase learning/grades	Believing that some people need more time to learn.	Using practice to increase learning/grades	Believing that you can always learn more, do better	Trying again on homework, classwork, assessments for grades, learning, or mastery of content	Making choices to affect (or not affect) one's learning	Believing that errors are part of the learning process	Finding a relationship between grades and learning	Valuing learning more than grades	Evaluating the level of challenge or time involved to learn more	Evaluating the difficulty of a subject, difficulty learning
1		●				●		●		●	
2						●				●	
3			●		●	●					ELA
4	●		●		●	●	●				Math
5	●		●		●	●	●	●		●	ELA
6			●	●	●	●	●				Math
7	●		●		●	●			●		7th
8	●	●			●	●					
9						●		●	●		
10			●		●	●				●	Math
11		●	●			●		●	●		
12		●			●	●		●			
13						●		●	●		
14					●	●				●	7th
15		●		●	●	●		●			

CHAPTER V

DISCUSSION

A standards-based grading philosophy calls for the implementation of some critical protocols. For one, in a standards-based grading structure, grades derive solely from demonstrated student mastery of the academic standards, and teachers must handle behavioral issues such as participation, homework completion, and effort separately from grades (Guskey, 2009; O'Connor, 2009). Formative assessment with feedback is critical, and the formative assessment should change the behaviors of students and teachers (Marzano, 2010). Students receive multiple opportunities to demonstrate mastery, and the point at which they demonstrate the highest attainment of mastery is the point at which they should be graded (Marzano & Heflebower, 2011). When students interact with the practices of standards-based grading, they inevitably make meaning for themselves.

In addition, the practices of standards-based grading may shape a mindset for students. A learning or mastery goal orientation is one in which students strive to achieve mastery of content and is accompanied by the belief that, through effort, we can achieve mastery. On the other hand, a performance goal orientation is one in which students strive to impress others and satisfy themselves. This occurs when students either perform well or try to avoid failure. Dweck (2006) calls these two dichotomous perspectives a growth mindset and a fixed mindset, with a growth mindset being the ideal as it has been shown to increase student motivation to learn (Elliot, McGregor, & Gable, 1999; Midgley, Kaplan, & Middleton, 2001), raise student achievement (Lee, Hayes, Seitz, DiStefano, & O'Connor, 2016), and positively impact student grades (Shim & Ryan,

2005). Students who possess a growth mindset show the appreciation of a challenge, an acceptance of risk-taking, a value on growth and learning instead of easy success, and a focus on exceeding beyond previous accomplishments through work and effort (Dweck, 2006).

The broad purpose for the study was to construct an understanding of the role of standards-based grading practices as middle school students made meaning and developed a mindset towards learning during their seventh grade year. At an organizational level, the purpose was to explore how the seventh grade middle school students at a new middle school made meaning of their learning based upon their interactions with the school's practices of standards-based grading and if their interactions also resulted in the development of growth or fixed mindset qualities regarding their larger potential for learning.

Two research questions guided this study:

1. What meanings do middle school students make from their interactions with the practices of standards-based grading at a new middle school?

2. What mindset qualities do middle school students adopt from their interactions with the practices of standards-based grading at a new middle school?

This study adopted practice theory approach, which purports that individuals make meaning from their interactions with practices. As such, the researcher focused on the practices that students engaged in with the intention of learning how students made meaning and formed a mindset from their experiences with these practices.
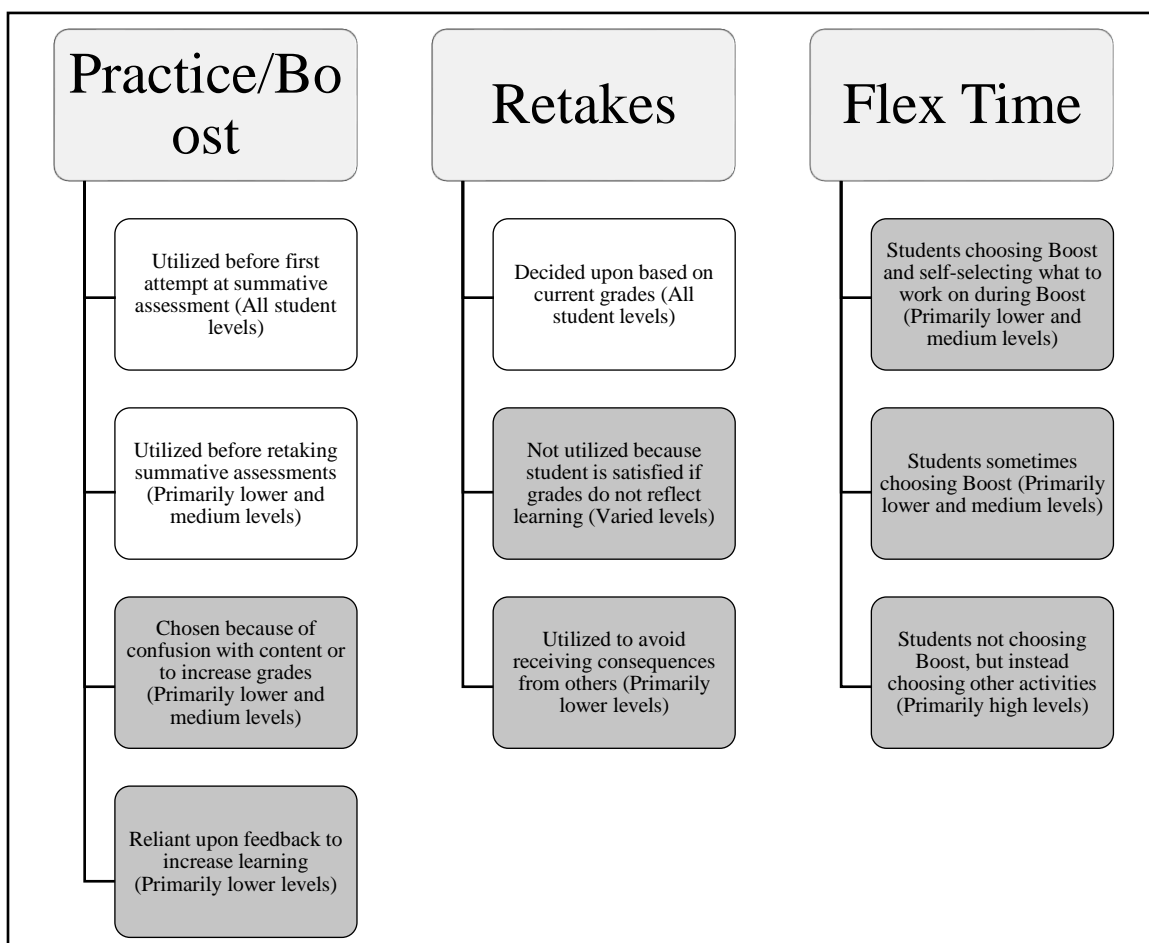
This chapter discusses the findings from the research and summarizes the conclusions. The researcher addresses each research question separately. Each explanation begins first with a discussion of the student practices of standards-based grading as identified through the identification of codes (activities) and development of categories (practices) and then identifies the meanings and mindset qualities identified through the research. Following the presentation of these findings for each research question, the chapter will close with the study's implications, limitations, conclusions, and future prospects for research.

Research Question 1

The first research question asked "What meanings do middle school students make from their interactions with the practices of standards-based grading at a new middle school?" The preliminary first cycle coding process identified three early student practices that were helping students to make meaning. The first student practice was that students were using practice opportunities (homework, classwork, Boost sessions) and formative assessments as opportunities to strengthen their understanding before the first summative assessment. Next, students were using practice opportunities (homework, classwork, Boost sessions) and first attempts at summative assessments as opportunities to strengthen their understanding before a retake of a summative assessment. Finally, students were deciding to retake a summative assessment based on their current grades in the class and the potential impact of the summative grade on their overall grade. Again, these practices arose through the initial coding, which noted student responses for students 3, 4, 5, 6, 8, 10, 12, and 14. With the second cycle interviewing of the additional seven students (1, 2, 7, 9, 11, 13, and 15), these three practices continued to be identified

as student responses, though only the final practice of deciding whether to take a retake based on current grades was a unanimously-given statement. Still all three of these practices remained as practices that were forming student understanding.

In addition, the researcher identified new student practices from the final data analysis process. Figure 4 displays these new student practices along with preliminary student practices. Interestingly, some of these practices only pertained to students in a specific achievement level. For example, lower achieving students tended to use feedback and formative assessment data to increase learning more than their medium or high-achieving peers. However, lower achieving students likely made more errors on their formative work through the practice process than higher achieving students, which would give them more feedback on such work. In other words, if medium or high achieving students completed homework or classwork correctly, there was not as much feedback for them to utilize to change their behaviors or to increase their learning. These lower achieving students appreciated the opportunity to practice and learn without the penalty of poor grades for their errors. As Student 9 stated in the second cycle interviews, "I'm glad that formatives aren't graded because it's like homework. You get it for the first time, like at the beginning of a unit. If you don't understand it, it's not proper to take that as a grade. It's only fair to practice and take that one final thing in the end for the grade."

Practice/Boost	Retakes	Flex Time
Utilized before first attempt at summative assessment (All student levels)	Decided upon based on current grades (All student levels)	Students choosing Boost and self-selecting what to work on during Boost (Primarily lower and medium levels)
Utilized before retaking summative assessments (Primarily lower and medium levels)	Not utilized because student is satisfied if grades do not reflect learning (Varied levels)	Students sometimes choosing Boost (Primarily lower and medium levels)
Chosen because of confusion with content or to increase grades (Primarily lower and medium levels)	Utilized to avoid receiving consequences from others (Primarily lower levels)	Students not choosing Boost, but instead choosing other activities (Primarily high levels)
Reliant upon feedback to increase learning (Primarily lower levels)		

Figure 4. Key meaning-related data points identified through first and second cycle analysis

Another important category of student practices was in regard to Boost time, the time that RMS students and teachers used for standards-based grading protocols. Students either utilized, or did not utilize, Boost largely dependent upon a student's achievement level. In this study, six students indicated that they sometimes chose to go to Boost. These six students were Students 3-8, which were three lower performing and three medium performing students. Furthermore, these lower and medium performing students reported that they chose to go to Boost because of confusion with the content or

to better learn the content or chose to go to Boost because of a low grade. "Boost helps me a lot," Student 3 said. "We work in groups. We have smaller numbers, and it's easier to learn it." Ten students indicated that they chose something else with Student 6 giving affirmative answers for both Boost and an alternate activity. The ten students who stated that they chose something else were two lower, three medium, and five high performing students. The researcher concluded that most high performing students selected an alternative activity instead of Boost and that lower and medium performing students selected Boost or something else, depending on the individual student. Only two high performing students indicated that a teacher might tell them to go to Boost, and five students (from all three achievement bands) said that they don't really go to Boost, which caused the researcher to conclude that this student practice was not specific to performance level. Finally, lower performing and medium performing students indicated that they self-selected what they would like to work on during Boost time, an important point to note. As Student 5 stated, "Me and my friend set a goal. We agree what to work on, what we need help on. A little bit of classwork and maybe a test that we did not do so well on. The goal is what we need to work on." The students were the ones directing their learning during Boost time.

Next, students unanimously decided to retake "depending" on their current grade in the class, or on how low the specific summative assessment grade was. Five students even reported feeling satisfied if a grade did not reflect their learning in the class. Lower achieving students noted that they kept their grades up to make their parents, teachers, athletic coaches, or themselves satisfied, which meant that they avoided receiving

consequences. Table 11 displays these student practices of standards-based grading

along with any identified student performance levels.

Table 11

Student Practices of Standards-based Grading that Created Meaning

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Students from All Achievement Levels were . . .

1. Using practice opportunities (homework, classwork, Boost sessions) and formative assessments as opportunities to strengthen their understanding before the first summative assessment
2. Deciding to retake a summative assessment based on one's current grades in the class and the potential impact of the summative grade on the overall grade
3. Choosing an activity other than Boost.

Students from Primarily the Lower and Medium achieving Levels were . . .

1. Using practice opportunities (homework, classwork, Boost sessions) and first attempts at summative assessments as opportunities to strengthen one's understanding before a retake of a summative assessment
2. Using feedback or formative assessment results to change their behaviors or increase their learning.
3. Choosing to go to Boost.
4. Choosing to go to Boost because of confusion with the content or to better learn the content.
5. Choosing to go to Boost because of a poor grade.
6. During Boost, self-identifying the material or activity that the student needed help with.
7. Keeping grades high enough to make their parents, teachers, athletic coaches, or themselves satisfied, and particularly to avoid consequences from these individuals.

The researcher also analyzed the data regarding student feelings towards grading

for learning, as this information would help shed light on student values with regard to

standards-based grading protocols. Figure 5 shows these data points. When the researcher asked students if they preferred grading for learning or traditional grading, nine students chose grading for learning, one student chose traditional grading, and five students said that they were torn or indecisive. Quite interestingly, the nine students who were clearly decisive in their preference for grading for learning were almost exclusively in the lower performing category (four students) and the high performing category (four students). Student 1, a lower performing student, focused on the formative aspect of standard-based grading, saying, "I like the formative part of grading for learning. If it's a formative and I failed it, I know I'm going to need to study hard for the summative. The formative tells me what I still need to practice and learn." A high achieving student, Student 15, said, "I like grading for learning because it reduces the pressure. You know you always have a second chance to do something, but you still have to learn it." Furthermore, of the students who were indecisive or in the middle regarding their choice for grading structures, four were in the medium performing category. As Student 7 stated, "I would like my homework for a grade because it's every night. Last year, they didn't check if it's right, just if it's done. It's a completion grade, so it's not averaged as high. If homework was graded, I could at least have a B." The researcher concluded that higher achieving students typically have high grades regardless of earning grades for formative assessments, lower achieving students appreciate that they had opportunities to practice before the teacher assigned a grade, and medium performing students internalized the missed benefit of having an easier grade for completing tasks that were less cognitively challenging.
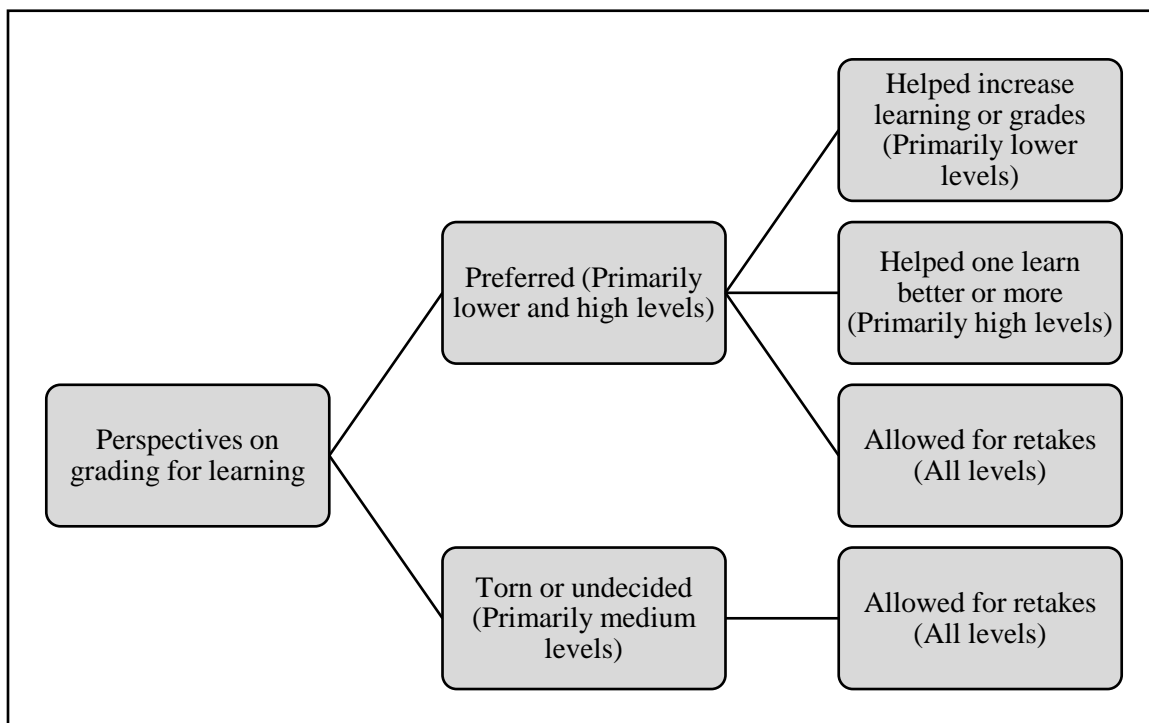
Figure 5. Key grading-related data points identified through second cycle analysis

When students explained why they liked grading for learning, eleven of the

fifteen participants stated one positive attribute: Grading for learning allowed retakes.

Even five students undecided between grading for learning and traditional grading

identified the retake opportunity as a primary reason why they liked grading for learning.

Student 8 said, "I like that we have retakes. Some people don't learn the first try, and

even if they do learn it, it takes them more time. You can't postpone a test. It gives you

another chance to show what you've learned. And it gives you a chance to go to Boost,

where it's more one on one." Some students stated that grading for learning helped their

grades or, like Student 8, that grading for learning has a Boost time. These students were

lower and medium performers. On the other end of the spectrum, high performing

students noted that grading for learning allowed them to learn more or to learn better. As

Student 14 remarked, "I like it because if you don't understand something, you can learn

it better." Finally, the issue of homework grading was a topic of interest for participants.

Four students stated that they wished homework was graded, six students stated that they

did not want homework graded, and two students responded with an answer that

indicated that their choice was conditional based on other factors. All of the students

who discussed homework were from lower, medium, and high performing categories.

Table 12 identifies the student responses towards the practices of standards-based

grading.

Table 12

Student Perspectives on Practices of Standards-based Grading

Students from All Achievement Levels felt . . .
   1. Grading for learning was preferable over traditional grading.
   2. Grading for learning was positive because it allows for student retakes.

Students from Lower and Medium achieving Levels felt . . .
   1. Grading for learning helped grades.
   2. Grading for learning offered Boost (or a remediation period)

Students from Medium and High achieving Levels felt . . .
   1. Grading for learning allowed a person to learn more or learn better.

With these practices and perspectives identified, the researcher's next step was to

evaluate what meanings the students were making from these practices, the ultimate

purpose of this research question. The researcher engaged in this process in a few steps.

First, the researcher re-read all student interviews and made notes and memos throughout

the readings. While the researcher had already read the interviews numerous times,

rereading the interviews allowed the researcher to regain the humanistic perspective.

Through the re-reading, the researcher recalled student faces and voices, which helped

the data remain grounded in the overarching goals of understanding how students were

making meaning. Again, during the rereading, the researcher made notes, which posed

hypothetical connections, thoughts to ponder, and open explorations of patterns and

theories. Next, the researcher reanalyzed the coded data and the already-identified

practices, seeking to understand how student practices as identified through the data

analysis process were forming student meaning. Then, the researcher turned back to

practice-based theory, recalling the critical theoretical underpinnings of this research.

From the practice-based perspective, as individuals pursue or engage in a practice, they

inherently know it, and as they shift their practices, they alter their sense of knowing

along with their modifications (Orlikowski, 2002). The researcher sought to understand

how student practices were manifested as student knowledge and meaning. After

spending weeks absorbed in the data, while reviewing voices from the interviews and

notes from open exploration, the researcher identified five primary meanings that

students made from their interaction with the practices of standards-based grading.

Below are these five identified meanings.

First and foremost, the students understood that learning takes time and effort.

Lower and medium performing students clearly appreciated practicing before a first

summative test, practicing before a retake, and using feedback or formative assessment data as necessary factors in their learning process. Regarding time, Student 1 said, "Some kids, like me, like having more time to learn it." Regarding effort, Student 4 spoke about the lengths she goes to in order to learn: "Ask [your teacher] about your homework or about your test. If you still don't understand it, ask her again. Take notes and if you still don't understand it, ask again. Work on a packet or on homework that you don't really understand." However, even high performing students recognized the value of retakes. Student 13 remarked, "I do retakes because I will learn it better, which means I'll get a better grade on the test." Students in every category understood that retaking an assessment was important because it allowed a student the opportunity to try again, or to demonstrate their mastery through multiple attempts. The standards-based grading practice of allowing retakes helped shape student understanding that the learning process may take time and effort and that this retake protocol gave students the time and second chance that they needed.

Similarly, students made meaning from the universality of the retake process. Lower performing, medium performing, and high performing students appreciated the opportunity for retakes for themselves and others. Essentially, from their interactions with the retake structure of standards-based grading, students understood that they all deserved second, third, and even more chances. Student 3 said about grading for learning, "You can retake things more than once. I like that a lot." Similarly, Student 6 said, "I like that you can redo a test at any time." High performing students did not articulate hostility towards lower performing students who eventually received a high grade, perhaps even as high as their own grade, after multiple attempts at mastery.

Student 12 said, "I like grading for learning because some things are different from person to person. Like they might not be that good at homework, and that shouldn't affect their grade. I like the retakes because if you're having a bad day or stressing out about it, you can try it again." Indeed, a judgmental perspective was not evident, or even alluded to, during any of the lengthy participant interviews. In fact, some high performing students mentioned that they had friends who needed more time to learn and that they appreciated that their peers received this opportunity to learn in their own time. Student 15, a high achieving student, reported, "I think most of my friends do retakes because they enjoy being able to do the retakes and they want to raise their grades up. Their parents won't be as mad. I have one friend who has a hard time learning. She likes grading for learning because she says she needs all the time she can get to learn everything." In summary, students understood that, as learners in a society, we all deserve multiple chances to learn.

Third, students understood that grades are important but so is learning. It is not a surprise that the middle school students in this study were attentive to their grades, because historically, most students place importance on their grades (Pattison, Grodsky, & Muller, 2015). Students at RMS were indeed highly attuned to their grades, in fact, as evidenced by the unanimous student perspective that their decision on whether or not to retake an assessment would depend on their current grades in the class and/or on the relative weight of that grade. However, in this study, the practices of standards-based grading fostered student appreciation for the importance of learning as well as for grades. Many students spoke about their desire to learn the content, regardless of how or when that learning occurred. Student 5, a lower achieving student, said, "Learning it is how

you get the grade up. If you know it and understand it, you'll get a better grade."

Student 9, a medium performing student, stated, "There's one thing I learned from one of

my teachers. It's the knowledge you get, not the grade. I believe that in my heart. The

grade in a class reflects the knowledge that you learned." Student 13, a high achieving

student, added, "Learning comes with good grades. If you have good grades, you've

learned it. You've showed that."

When asked about their reasons for attending a Boost session, some students

would mention grades, but more students spoke about their prior confusion regarding the

content and explained the importance of practicing before and after summative

assessments in order to learn the material adequately. Student 11 remarked, "I would go

to the teacher and learn what it was, but not retake it. I tell myself not to worry about my

grade. I tell myself I want to learn." Even the notion that many students, most

poignantly the lower-achieving students, self-selected the content with which they

desired teacher assistance spoke to the value that students were placing on learning.

While discussing what her twin would do during Boost, Student 3 explained that the

students decide what to work on during their remediation time: "[My twin] would ask

the ELA teacher for help on a certain topic. If she wants to take a retake, she would ask

for help on that summative. She would bring the summative to Boost. She would say to

the ELA teacher, 'Do you mind helping me on this?' and the ELA teacher will go over

the questions." While students in traditional grading structures may also value learning

along with grades, the remediation, formative assessment/feedback, and retake structures

of standards-based grading allowed students an opportunity to experience the success that

can come from continuing to learn. In essence, students made meaning from the significance of both grades and learning.

The fourth student meaning derived from a similar vantage point. As noted, students placed worth on both grades and learning. More importantly, however, students also felt that their grades should give them credit for their learning not at the beginning of the learning process but instead at the point at which the student is satisfied enough to not seek a retake opportunity. The strong positive support for retakes was evidence of the student appreciation for assigning grades only after students received the chance to learn as much as they can and demonstrate this learning on a summative assessment. Students from all achievement levels backed the idea of allowing retakes. While student opinions differed on grading homework, many of these arguments related to assignment complaints, home support concerns, and overall grade weighting issues, not to a student belief that teachers should grade practice opportunities. Students made meaning from the powerful accommodations that standards-based grading gave students. The student meaning created from the standards-based grading practices, then, was that teacher grading practices should reward time, practice, effort, and perseverance, explained next.

Regarding time, students understood that people learn in different ways and at different paces. Student 11, a high performing student, said, "I feel like grading for learning helps different kinds of people. People who need help and learn at a slower rate, they can study for it, then study it again and again to get good at it, and then try again. People who learn at a faster rate, it helps them, too. Maybe they learned it too fast, and didn't learn it deep enough. This gives them a chance to learn it deeper and try again."

As mentioned before, other students, such as Students 8 and 9, similarly respected the gift of time with regard to teacher grading practices.

Grading protocols should accommodate practice as well in students' eyes. In particular, students appreciated the opportunity to practice their skills on homework and formative assessments without the fear of a negative grade bringing down their grade. Student 3, a lower performing student, said, "I don't wish that homework was graded. Math homework is hard. I would get a bad grade if it was graded. I practice it on the homework and ask for help if I don't get it." Student 5's perspective was similar: "In science, we do formatives on vocabulary, and that helps me understand the main ideas and the words I need to know. In ELA, we take a couple formatives and summatives, for each standard. The formatives are very useful." Overall, the majority of students in this study expressed gratitude that teachers did not grade homework, many identifying the value of making mistakes without affecting one's grades.

Students also appreciated that some learning required extra effort and that grading practices should allow students the opportunity to put forth this kind of effort. Student 5 commented on the benefit of choosing Boost instead of other flex activities, stating, "if you go to Boost and learn that stuff, then it most likely will be on the test, so you'll get it right later, which will help your grades." Student 6 spoke about the remediation and retake process that she and her teacher used together. Regarding putting forth the effort to attend Boost and complete the retake preparation work, she said, "Sometimes I did it on my own and sometimes my math teacher asks me if I want to retake it to help my grade. My math teacher helps me with the things I don't understand." To Student 1, paying attention required effort on his part, and he said, "If your grades are lower, you're

struggling or not focusing. If your grades are higher, you're paying attention." To these students, the effort that they extended worked towards increasing their grades.

Perseverance was the last quality that students highlighted as one that teacher grading practices should recognize. Student 9 talked about the everyday struggles that students sometimes face and felt that grading practices should allow students to overcome these challenges and try again. "There could be days when you're having a really bad day," she said. "You could have lost a family member, a pet, or didn't get sleep. You could walk in and take a test that you know well, but bomb it. You could take it again. That chance should be open to all kids, no matter what." Student 4, a student who was failing math at the time of the interview and who had struggled in school the previous year as well, said, "Nobody wants a bad grade. I like the retakes because let's say you got a 50, and you wanted to get an 80, you would retest. You would get a better grade if you studied and did the retest work." She later added, "It usually takes a lot of time for me to get it." Yet, despite her clear struggles, Student 4 was optimistic and happy in her interview and appreciated the opportunity to continue to persevere and try again in her work.

The final student meaning that students made in response to their experiences with standards-based grading related to student ability to affect their own learning decisions. Middle school students at RMS had the ability to make choices in each of their classes and throughout their academic day. These choices include the various options available to students during flex time and the opportunity to retake an assessment or not. These standards-based grading practices formed this student meaning: that all students hold personal, decision-making power with regard to their learning. Indeed,

student responses to the questions regarding Boost and retakes, along with attendance and frequency data about student Boost and retake patterns, were quite telling.

Some students embraced the opportunity of going to a Boost remediation session to increase their learning, such as Student 3, who said, "Math is hard right now. We are learning about volume and surface area and I really don't understand it, so I'll go to Boost." Meanwhile, others clearly did not. Student 1 said with a shrug, "Teachers usually tell me I should go to Boost. I think about it, and then decide." Some students chose to continually correct their errors and take multiple retakes throughout the year, such as Student 7, who explained what his twin would do. "In ELA Boost, he would be always rewriting and redoing things. That's one class where you have a lot to redo. Ask if there's anything else he can do to bring up his grade. I always know what I need help in. I look at my grades the night before. Or if I've gotten another bad test back, I definitely go. I bring the test to the teacher. I go over the questions all the time." Again, while some fully embraced the opportunity to continue learning, others did not. As Student 2, when describing what his twin would do, replied, "He would either go to P.E. or chill. He would hang out with my best friends. He wouldn't go to Boost. That wouldn't trick the teachers."

Furthermore, some students were explicit and focused in what they needed from the teacher during remediation sessions. Student 8 directed her twin in this way: "If she would go to math boost, she would open her textbook and get out any sheets that had helped prepared for the upcoming test. She would call the math teacher over and ask questions that she has over it." Other students did not necessarily see any value from having the teacher's assistance during Boost, such as Student 12, who stated, "For me,

Boost is helpful, but it's something I could do at home, too. It's nice to be able to ask the teacher, but I could do it at home, too."

Despite the different student approaches to learning and remediation, all students possessed the same power to choose, and students were able to rationalize why their personal decisions in these matters were the right choices for them as individuals. Those who were struggling in school identified Boost as a positive choice for themselves. Student 5 remarked, "I go to Boost a lot. It's really helpful. You get one-on-one time with the teacher. Questions are being answered that haven't been answered in class. You get extra time to study." To Student 5, remediation was the right choice for her, personally. To others, such as Student 13, other factors were more important. "Lots of times I'll choose P.E. to get some activity," he said. "I need activity to help me have a break during the middle of the day." Clearly, this student possessed awareness of the best strategies for himself as a learner.

Of course, some students spoke about outside influences, such as parents and athletic coaches that influenced their thinking. Other students discussed the many ways that teachers urged students to stay focused: negative consequences such as Homework Lunch Club or Catch Up for non-compliance, pleading and cajoling to attend Boost sessions, and other remediation opportunities throughout the day. Overall, however, each student also expressed their own thought processes that led to their decisions regarding their grades and learning. At RMS, students had a voice in their learning process, and this ability to choose resulted in this fifth meaning for students: that all students hold personal, decision-making power with regard to their own learning.

Table 13 displays the five meanings that students made from their interactions with the practices of standards-based grading. In addition, after further contemplation of these five meanings, the researcher identified a cognitive structure that represented the relationships between these five meanings. To the researcher, this structure was that of a balance between learning and grading, with learning and grading being equally important aspects of the meaning that students made from standards-based grading. More importantly, the notion of student ownership and self-determination was the platform on which both of these critical concepts rested. Figure 6 depicts the balance of grading and learning fostered by the RMS grading practices.

Table 13

Student Meanings from the Practices of Standards-based Grading

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1. Learning takes time and effort.
2. We all deserve multiple chances to learn.
3. Grades are important, but so is learning.
4. Time, practice, effort, and perseverance should be rewarded in teacher grading practices.
5. All students hold personal, decision-making power with regard to their own learning.
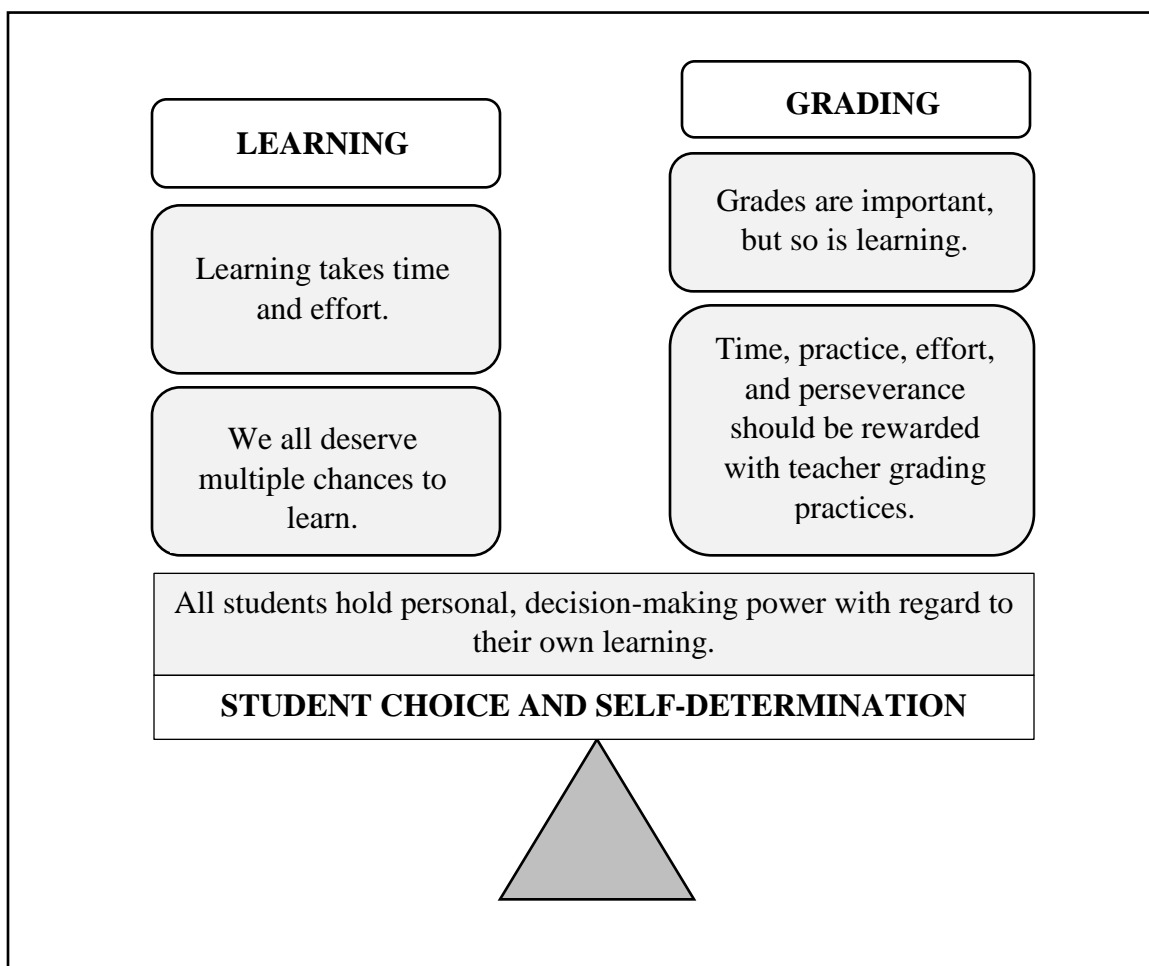
Figure 6. Relationship between student meanings from the practices of standards-based grading

Research Question 2

The second research question asked, "What mindset qualities do middle school students adopt from their interactions with the practices of standards-based grading at a new middle school?" The preliminary first cycle coding process identified five early student practices that were shaping student mindsets. The first student practice was that students were using time to increase learning and grades. Next, students were using practice to increase learning and grades. In addition, they were trying again on

homework, classwork, and assessments for grades, learning, and/or mastery of content. Fourth, students were making their own decisions and choices to affect or not affect their learning. Finally, students were accepting their errors and first summative attempts as a recognized part of the grading and learning process. Again, initial coding identified these practices, which noted student responses for students 3, 4, 5, 6, 8, 10, 12, and 14.

Following the second cycle interviewing of the additional seven students (1, 2, 7, 9, 11, 13, and 15), the researcher refined these five practices and added one other. With regard to the first practice, that of using time to increase learning and grades, the researcher noted that primarily lower-achieving students actually used time to increase their learning and grades, as would be expected from such students who struggle to learn material in a brisk fashion. Interestingly, however, some high achieving students expressed an opinion that some people need more time to learn. While they were not talking about themselves, their statements allowed the researcher to continue to accept that students were using time, or giving others time, to increase learning or grades. As previously noted, Student 15, a high achieving student, talked about her friend who struggled to learn. Student 15 was glad that her friend had additional time to master the content. However, even when a high achieving student did not have a personal friend with whom to empathize, they still noted the importance of allowing others the time they needed to be successful. Again, as previously quoted, Student 11 remarked, "People who need help and learn at a slower rate, they can study for it, then study it again and again to get good at it, and then try again. People who learn at a faster rate, it helps them, too. Maybe they learned it too fast, and didn't learn it deep enough. This gives them a chance to learn it deeper and try again." These higher achieving students did not express

frustration that other students had the same potential to earn an A in the course as they did but instead showed understanding for the differing learning needs of others.

The second practice was that students were using practice opportunities to increase their learning or grades. Again, mostly lower and medium achieving students were exhibiting this practice as evidenced by student interviews and attendance patterns in Boost. Student 6 said, "Sometimes when I have to retake a test, I go [to Boost] for the teacher to help me out on the subject before the test. Sometimes if I'm just not understanding the subject, I go." Overall, eight students expressed that by giving effort or practicing, it helped them learn more and perform better.

Next, students were trying again on homework, classwork, and assessments for the purposes of affecting their grades, their learning, and/or their mastery of the content. This appeared in the quantity of retakes by participants and by the seventh grade level overall as well as by the participant responses regarding their habits of trying again. Student 5 remarked, "That's another good things about Boost. You have more of an opportunity to learn more about it. If you're not understanding anything, go to Boost." Ten students, in fact, spoke in depth about their experiences with repetitive learning behaviors and their justifications for trying something again.

Fourth, students were indeed making their own choices to affect or not affect their own learning. Whether they chose Boost, an academic Flex activity, a club, or a purely recreational activity, all fifteen students claimed to be making daily choices that affected their learning and grades or not. This notion of empowerment was an important theme that emerged from this aspect of the practice data.

The fifth, early-identified student practice was that students were accepting their own errors and first attempts at a summative assessment as a part of the learning process. However, this student practice did not continue to arise as a pattern. Indeed, only a smaller group of lower performing students identified mistakes as a natural part of learning. As with formative assessment and feedback, however, the low frequency of this response in higher achieving students was likely a product of the fact that higher achieving students do not make as many errors, giving them less opportunity to interact with their own errors. Without sufficient data to prove this, however, the researcher re-categorized the student practice of accepting errors as an understood part of the learning process as a practice that was exclusive to lower performing students.

The added practice, attained after final data analysis, pertained to evaluation behavior of students. The researcher noted that students evaluated the level of challenge, or the time involved, before deciding whether it was worth trying again. For some students, such as Student 1, this decision came from a knowledge of their own capabilities. Student 1 said, "I don't want to get my head confused with so many things at once. I can't retake and keep up with new stuff. I tried that once and it wasn't good." Similarly, Student 5 evaluated her ability to manage a retake successfully depending on the number of standards with which she was struggling: "Everything has its own standards category. If one of my grades is lower, I would retake the lowest part. If my overall grade was a B but I didn't see one standard that was lower, I probably wouldn't retake it. There would be too many standards [to retake]." High achieving students felt the same way. "A lot of people think that there's a lot of work that goes with retakes," Student 14 commented. This student added, "Sometimes that's a good thing because that

helps get them motivated to do a good job on the test before. But sometimes they fall behind in another thing that they're learning because they're catching up with the retake. When I got sick, I had to retake something that I didn't understand, and then the retake packet got me further behind." Generally, students evaluated the difficulty of a subject or their own personal difficulty with learning a content area before committing to studying and/or retaking that subject's assessment. This practice was noted in students of all three performance levels. Granted, many students, after weighing the level of challenge or difficulty, did decide to practice and retake. For these students, the level of challenge was not a deterrent, but for other students, it was. Overall, the researcher found that students were evaluating the level of challenge or difficulty before making their learning decision for themselves.

Table 14 lists the six student practices that shaped student mindsets. As a practice theory study would dictate, the researcher used these six practices as evidence for student mindsets. As previously described in the explanation of the researcher's open exploration and synthesis process regarding student meaning, the researcher reviewed, reanalyzed, and resynthesized the coded data and student practices from the research. Again, the researcher re-read student interviews and background literature on practice-based theory. For this research question, however, the researcher also delved back into the literature on mindsets, growth and fixed. This careful, thorough process led to the identification of six primary mindset qualities shaped from student interaction with the practices of standards-based grading. From the researcher's perspective and comprehension of the differences between a growth and fixed mindset, the researcher felt

that five of these student mindset qualities indicated the growth mindset type with one

seeming to represent the fixed mindset variety.

Table 14

Student Practices of Standards-based Grading that Shaped Mindset

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Students from All Achievement Levels were . . .

1. Using time, or giving others time, to increase learning or grades
2. Trying again on homework, classwork, and assessments for the purposes of affecting their grades, their learning, and/or their mastery of the content
3. Making their own choices to affect or not affect their own learning
4. Evaluating the level of challenge or difficulty before making their learning decision for themselves

Students from Primarily the Lower and Medium achieving Levels were . . .

1. Giving effort or practicing to learn more and perform better
2. Accepting their own errors and poor first attempts at a summative assessment as aspects of the learning process

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First, from their experiences with standards-based grading, RMS students

developed or reinforced a belief that they can change their learning potential through time

and effort. Both schoolwide and in the participant sample, students took advantage of

personalized teacher-student remediation opportunities in an effort to improve their

grades, which signified their learning. Many participants identified grades as indicators

of how much they had learned or how much effort they had given towards their learning.

Student attendance in Boost sessions, student retake patterns, and student perspectives towards these practice opportunities and summative second chances indicated that students accepted and appreciated their ability to change their learning and grades through time and effort. Student 7 noted that "I do like retakes a lot. You have to go through a process. I like that you have to do work and study and retake it. It allows you to learn it." It is also important to note that this perspective occurred in all achievement levels of students. Lower achieving students certainly took advantage of the remediation structures, and higher achieving students spoke about a time when they took a retake, even if it was only once during the school year. More importantly, as previously noted, higher achieving students did not begrudge lower achieving students for having this opportunity, and not once did a higher achieving student make a comment that judged another person's potential for learning. A few medium and higher achieving students spoke about having friends who learned the content more slowly, and they quickly followed with an explanation that Boost and retakes allowed their friends the time that they needed to learn.

Many students also identified content areas in which they felt more challenged but that they also felt that they could master this challenging content through time and effort. Student 9 said, "In ELA and social studies, I pick it up fast. But in science and math, it takes longer to get it sometimes. There are more steps involved. It just takes longer to learn it and to do some of the questions." Similarly, Student 11 stated, "I struggle learning a few things. I can learn anything in math. For science and social studies, I'm in the middle. ELA is at the bottom of the list. I can learn it, but sometimes I forget to use it. I know the stuff, but it doesn't come automatically. Commas, quotation marks,

possessives, and stuff? But when I go back and see what I need to fix, it helps me learn it. The more I practice difficult things, the more I learn it." A high achieving student had similar beliefs in the power of practicing and applying difficult concepts to increase his understanding. As he was describing what his twin would do during Boost, he referred to a time earlier in the year when he struggled to master some content and what he learned from the experience. "If I'm struggling in something, like I did at the beginning of the year with punctuating sentences, he'd ask about that," Student 13 said. He added, "For that, I worked on the corrections and learned it. Plus we've written a ton of essays this year, and you use the punctuation in that. It's applied." From this evidence and these testimonials from RMS students, the researcher concluded that students held the mindset that everyone could change their learning potential through time and effort.

Second, students in the study expressed a positive outlook towards the notions of giving effort and practicing. Students in the participant sample and in classroom observations did not cast judgement on those who were going to Boost or retaking an assessment. In fact, there was a general air of casualness and comfort with regard to the flex structure. Students accepted and appreciated the opportunity to sign up for whatever flex activity that they wanted to, and there was not a hint of judgement for what others were signing up to attend. Students did not indicate shyness about signing up for Boost or about retaking an assessment. In every homeroom class, students seemed to sign up for different activities without a schoolwide perception regarding which activity was most valuable or respected. Quite simply, students chose what they wanted or needed to attend. The choice was entirely personal. If that choice was a remediation, it was not embarrassing to the student nor was it remarkable to others. Furthermore, high achieving

students did not disparage those who needed additional practice or effort. Student 11

explained, "For some people, if you see they retook something, you can definitely see

how much someone learned. It shows the growth, and that is really great. It definitely

reflects how much they learned, and how much effort they gave. Maybe they rushed

through the first time." Student 12, who was earning a 93% in ELA and a 99% in math at

the time of the interview, said without hesitation or justification, "I don't usually have

that much trouble with anything. I go to reading Boost the most. On a test if I'm having

trouble with it, I learn it and I can retake it." In general, there was a lack of concern for

those who wanted more time or practice in a subject. Instead, there were enthusiastic

voices of students who supported Boost opportunities, which allowed the researcher to

conclude that, to these students, giving effort or practicing was not a sign of lesser talent

or intelligence, which is a quality of a growth mindset (Dweck, 2006).

Next, students at RMS, like students across the globe, experienced setbacks from

time to time, which included poor grades on summative assessments or in a class in

general. Lower achieving students discussed situations in which they had a difficult time

learning the content, when they received failing grades on tests, or when they continued

to be confused in a subject. Student 4 laughed about the errors that she and her

classmates would make, explaining, "If we get something wrong, our math teacher says,

'Did you forget something?' We would have a misconception, and we'll say,

'Ohhhhhh!'" High achieving students also spoke about times throughout the year when

they struggled to master a certain concept or when they performed poorly on an exam.

As previously mentioned, Student 15 experienced a critical event that happened at the

beginning of the school year: "In math, at the beginning of the year, in step equations, I

got a D, so I wanted to retake it. It was one of the first grades and I normally don't get D's a lot so it kind of scared me. Our math teacher required us to do three things that included step equations: problems, a worksheet, and I redid a piece of homework. I learned how to do step equations. If I really tried I could probably pick up anything. I'm just glad I had the chance to show that with step equations. That D would have held me down otherwise."

These participants did not speak about these struggles as the end of the world. Instead, participants accepted them as challenges to face and conquer through extra time, practice, and a second chance at demonstrating mastery. The opportunity to try again gave students a sense of security since they knew that they had the power and the structure to learn from their mistakes and retake the assessment that evaluates their mastery. Failure was not a character flaw, a sign of their lack of intelligence, or a life-ending catastrophe for a middle schooler. Instead, a failing grade or hardship experience was something that the student could handle and improve upon not only because the student felt equipped to face the challenge but also because the structure of the grading and scheduling allowed for this improvement. Student 5 relayed the differences in her experience from a traditional grading system to a standards-based grading system and explained how this affected her perspective on grading. She said, "Last year in science, I got a really bad grade. I wanted extra points. The teacher said I can't get extra points. That's not how we do things here at this school. But the test was all based on the same thing. I got the same thing wrong on the whole test. My grade was awful the rest of the semester. Here, you have another opportunity to get your grade up. You aren't just sitting there and doing nothing about it." The mindset quality, then, that students adopted

was that a moment of failure was not hopeless or defining. Instead, they felt that a

moment of failure was a problem that a person can remedy by learning from it and trying

again. Indeed, lower and medium performing students embraced moments of failure as

part of the learning process, such as Student 9, who said casually, "If I miss something,

it's usually because I made a precision error. I'll see that and think, 'ok, I'll fix that in

the future.' I don't retake." Also, high performing students looked at errors and failures

as opportunities for learning, such as Student 14, who remembered a poor grade from

earlier in the year: "The test was harder than I thought it would be, and I didn't fully

understand it. I got a better grade on the retake though." RMS students understood that

they all deserved multiple chances to learn.

The people and culture of RMS shaped a fourth mindset quality in this study.

Namely, the teachers of RMS implemented standards-based grading in such a way that

students felt supported and empowered to learn. Students in Boost sessions decided what

they wanted to learn and study, and teachers accommodated these requests. Students

advocated for themselves by signing up for remediation and retakes, and teachers

provided these opportunities for students to demonstrate improvement. Granted, some

teachers assigned more lengthy prerequisites for retakes, and being that a middle school

is filled with normal adolescents who may try to push limits, teachers felt compelled to

provide some structure to the system. Overwhelmingly, however, teachers sent a

message to students that they believed in their ability to learn and that they personally

invested themselves in their students' development as learners and young adults.

Teachers did not classify students as intelligent or unintelligent but equally challenged all

students to exceed beyond their own personal boundaries. As previously mentioned,

teachers at RMS were hired after a lengthy interview process that evaluated each

teacher's fundamental beliefs in standards-based grading and in a growth mindset.

Observations of classroom teachers, along with data analysis of teacher gradebooks and

Boost attendance documents, only strengthened the researcher's understanding of the

schoolwide culture focused on empowering students to take ownership of their learning,

grading students based on mastery of the standards, and a willingness to allow students

multiple opportunities to demonstrate success. From this supportive school climate,

students adopted a mindset that placed emphasis on their development and progress, not

on their natural talent, intelligence, or ability to learn quickly. As Student 7 noted, "All

my teachers really care, though. They say they're not going to keep running to you to

retake, but they really do. Not in a bad way. They just want you to learn and keep your

grades up. They'll show you what standards you're not doing as well in. They'll ask you

to keep trying to learn it. They really believe in us, which helps a lot." Standards-based

grading shaped a mindset quality in students that people who cared about them valued

improvement and growth not easy success.

The fifth and final growth mindset-related quality that emerged from this study of

standards-based grading practices was concerning students' belief in their own potential.

Each student who participated in an interview was extremely self-assured in their own

assessment of their learning potential. While some students were more reserved than

others, all were clear and intentional in their belief in their own power to learn. Student

2, a lower achieving student, spoke about his tactics when faced with poor grades that

would have unwanted consequences: "I am more worried about my grades than my

learning. Number one, so my mom won't get mad. Number two, I play sports year

round. I don't want to get benched. There was one time I was close. I was missing assignments for my ELA teacher. I went to Boost and I got it done." Student 2 had no doubt that he could attain the required grade. He attended a remediation session and improved his grade. High achieving students, accustomed to having an easier time learning, made statements such as "I don't usually have that much trouble with anything," as Student 12 stated, or "I can learn anything in math," as Student 11 reported. But these high achieving students also expressed experience with relearning content and retaking assessments. Student 14 explained, "If you don't understand something, you can learn it better. You have to study again and do the things that the teachers make you do to help you learn it again."

None of the students expressed despondency over their current learning or over their future for learning, but instead they spoke with contentment and, in some cases, excitement about their experiences now and towards their futures. Student 7 spoke about how his current experiences in school contributed towards potential as an adult. He stated, "We're basically at school for us to have a job when we're older. My social studies teacher is always telling us that he wants us to be successful in life." Student 7 also expressed an appreciation for a challenge, which is a characteristic of a growth mindset (Dweck, 2006). He said, "Last year was easy. I was flying through the year. My friend and I were in lower down classes and I don't know why. We were always in advanced classes but they put us low last year. This year is more challenging for me. I'd rather be in advanced classes and work harder because you learn more and get better prepared for life." Perhaps Student 6 said it best when he summarized a growth mindset in his description of the learning process at RMS. He stated, "Here, you can always

retake. You can always learn more. You can always do better. If you're struggling with something, they don't count that off. It's okay to struggle." Through all of the interviews and observations of students in remediation classes, students did not indicate that they felt powerless or incapable of learning the content. Instead, they embraced opportunities to continue learning everything that their teachers expected them to learn. RMS students seemed to hold the mindset that their ultimate potential was not determined.

These five growth mindset qualities were powerful indeed, and from the researcher's perspective, it was quite impactful that student interactions with the school's standards-based grading protocols influenced these characteristics. However, the researcher also identified one fixed mindset characteristic informed by the student experiences around grading for learning. That fixed mindset quality related to student acceptance of a challenge. Simply stated, RMS students were not always willing to put forth the work and effort required to overcome a hardship. In particular, students judged their willingness to retake assessments based on the relative weight of a low grade or on their overall grade in the class along with the amount of time and effort (i.e., completing a lengthy retake packet and going to Boost sessions) that would qualify them to attempt the challenge. From the perspective of Student 2, "The retake packet, plus 4 pages in the math textbook, and show up on certain Boost days, and then show up on another day to take the test? It's so time-consuming! I like choosing other things." This avoidance of a challenge is a quality of someone with a fixed mindset, as a person with a growth mindset would readily accept challenges due to their passion for learning and a determination to overcome difficulties. With standards-based grading, students retain the opportunity to

try again on any of the content standards, which forces students to face these options.

Many RMS students did accept the challenge, and many students did take retakes

throughout the year. However, students adopted the belief that some challenges required

time or effort that they could not or would not give. The six mindset characteristics that

were shaped by student interactions with the practices of standards-based grading are

displayed in Table 15.

Table 15

Student Mindset from the Practices of Standards-based Grading

Growth:
1. You can change your learning potential through time and effort.
2. Giving effort or practicing isn't a sign of lesser talent or intelligence.
3. A moment of failure isn't hopeless or defining. A moment of failure is a problem that a person can remedy by learning from it and trying again.
4. People who care about me value improvement and growth.
5. Your ultimate potential is not determined.

Fixed:
1.   Some challenges require time and effort that I can't, or won't, give.

As done with the qualities of student meaning fostered from the practices of

standards-based grading, the researcher created a graphic figure to indicate the cognitive

structure of these characteristics. This image, shown in Figure 7, organizes the findings

in somewhat of a chronological order to the researcher. The first mindset quality comes

to students from those around them including their teachers, parents, and friends. From

that, students make decisions and form opinions on whether the work and effort that is required for growth is worth the time expenditure. Naturally, a student will experience a setback at some point, and their reaction to moment is illustrative of their mindset. Finally, two mindset qualities seem to represent the near and far future, both of which pertain to how students view their learning potential.   In this schematic view, a student's mindset relies upon their past, their present, and their thoughts on the future, and as discussed, the students at RMS displayed these mindset qualities with respect to the practices of standards-based grading at their school.
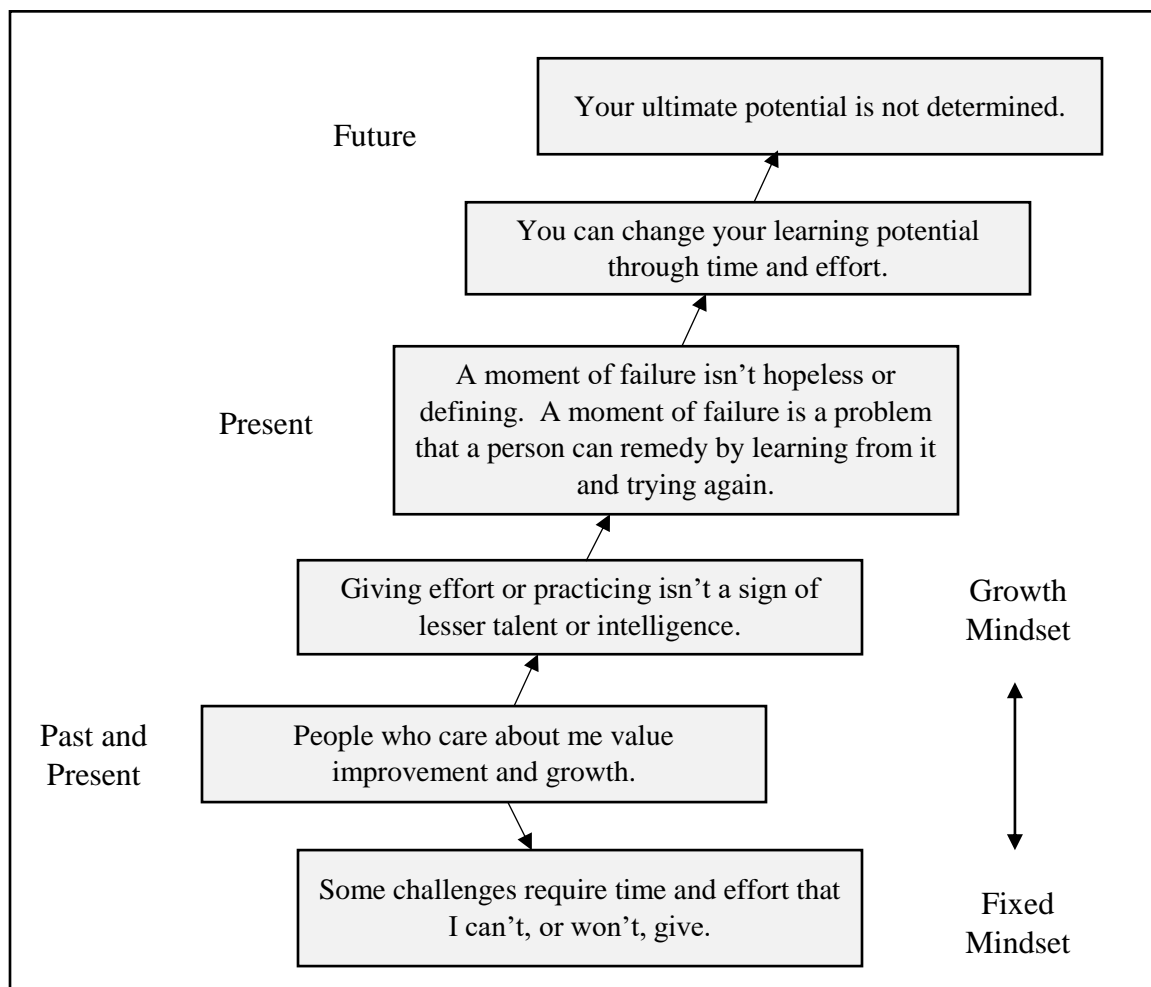
Figure 7. Relationship between student mindsets from the practices of standards-based grading

This study was able to answer the two research questions regarding student meaning and mindset that were developed by student interactions with standards-based grading. Through the iterative collection and analysis of data, which occurred from a grounded theory qualitative framework and practice theory epistemological framework, the researcher was able to identify clear outcomes with regard to the development of

meaning and mindset in middle school students who interacted with standards-based grading for the first time in a new middle school. Below, the researcher discusses these findings in a context of their implications.

Implications

This research study sought to understand the development of student meaning and mindset through student interactions with the practices of standards-based grading. This study occurred at a middle school that was experiencing its inaugural year of existence. The school implemented a standards-based grading structure, identified by the members of the school as "grading for learning," and the principal hired all teachers based on their acceptance of a standards-based grading philosophy and the growth mindset perspective. Students, meanwhile, came to the new school following years of experience with traditional grading procedures at their prior elementary and middle schools. Students and staff spent the first semester of the year learning the structures and routines of standards-based grading at the school, and the researcher used the second semester as an opportunity to explore the meanings and mindsets that students had made from their first five months of experiences.   At the conclusion of the research, the researcher found that students made five important meanings from their experiences and that students shaped six mindset qualities as well. Table 16 presents these eleven features together.

Table 16

Student Meanings and Mindsets from the Practices of Standards-based Grading

1. Learning takes time and effort.
2. We all deserve multiple chances to learn.
3. Grades are important, but so is learning.
4. Time, practice, effort, and perseverance should be rewarded in teacher grading practices.
5. All students hold personal, decision-making power with regard to their own learning.

Growth Mindset:
1. You can change your learning potential through time and effort.
2. Giving effort or practicing isn't a sign of lesser talent or intelligence.
3. A moment of failure isn't hopeless or defining. A moment of failure is a problem that a person can remedy by learning from it and trying again.
4. People who care about me value improvement and growth.
5. Your ultimate potential is not determined.

Fixed Mindset:
1. Some challenges require time and effort that I can't, or won't, give.

This study is important for many reasons. First, while standards-based grading has been the subject of study and discussion for over fifteen years, the need for more information regarding the impact of standards-based grading on students always remains. Many schools and districts struggle with grading procedures, and while many contemplate switching to standards-based grading, the topic may be fraught with controversy for parents and teachers who will be implementing the new system. Grading has historic traditions, and resistance sometimes meets those who attempt to change such hallmarks of the education system. This study found positive results for students after the

implementation of a standards-based grading philosophy, and these strong outcomes may assist other schools and districts who are considering a move to standards-based grading.

In addition, Dweck's (2006) research on mindsets has certainly made a mark on the American understanding of learning to one's potential as well as on teachers, parents, coaches, and business leaders who may foster a growth mindset in those they serve. This study provides evidence that the full, intentional implementation of standards-based grading is an effective strategy to support a growth mindset in students. The application of standards-based grading positively benefited RMS students with regard to their mindset towards learning, and these benefits will likely stay with students for the years ahead as they encounter learning opportunities in high school, college, and their careers.

Furthermore, this study utilized a practice theory approach, which is not a common epistemological framework used for educational research. While practice-based theory applies to many realms of organizational research, including nursing procedures in hospitals, it has not been a common research approach for studying the work and experiences in schools. Here, the study shows that practice theory has applications for research in school organizations. While this study explored the grading practices of schools and how these practices shaped student meaning, other common practices in schools, such as classroom management practices, teacher collaboration practices, or principal evaluation practices could apply to practice-based research as well. As is purported in practice-based theory, studying the practices that occur in organizations, including schools, allows one to understand the knowing and meaning that happens in these organizations.

Next, this study is important for its impact on the students of RMS. Students developed many positive attributes from their interactions with standards-based grading, including healthy perspectives towards making errors, giving effort and practice, being understanding of others, and exceeding beyond previous accomplishments. In addition, students possessed a strong foundation in ways to advocate for their own learning success and were trusted and empowered to make life decisions for themselves during the free choice opportunities, which helped develop self-determination characteristics. The seventh grade students in this research will move forward to their eighth grade year equipped to continue making learning decisions for themselves and will further develop meanings and mindsets for themselves. But all students, most notably future RMS students, will benefit from the lessons learned through this research. The school will be able to refine procedures, increase opportunities, and tailor efforts to continue their efforts and increase their results in years to come.

On a larger scale, education in the United States continues to experience change, growth, and improvement based on research. The findings of this study add to the literature regarding both standards-based grading and growth mindset, two topics frequently proposed for contemporary educational settings. Having more information about the benefits of these two propositions, along with the demonstrated symbiotic nature of their relationship, will assist school and district leaders in their decision-making process regarding the possible implementation of standards-based grading. In summary, this qualitative research study demonstrates positive results for students with regard to their perspective on growth and learning due to their experiences with grading for learning.

Limitations

This research occurred with the acceptance of four important limitations. First, a source of potential bias exists in the study, namely from the researcher. Indeed, the researcher is the principal of this new middle school and, as such, invested a great amount of time and care into making the new school a successful venture. Clearly, the researcher was a proponent of standards-based grading, or else the researcher would not have implemented it in the new middle school. Therefore, this potential bias was a limitation of this study. On the other hand, the researcher invested herself in doing what is best for students and teachers in the school now and in the future, and the researcher was a doctoral student interested in following research methodologies with fidelity. If negative outcomes or responses resulted from the research, including through the interview and observation process, the researcher would (and did) report these and analyze these. The researcher's goal was to uncover a full understanding of the development of student mindset and meaning through their experiences with standards-based grading, and as a principal, desired study results that could affect school processes in the following year. As both a researcher and principal, the researcher desired to know the truth.

A second limitation was a threat to internal validity. While the observations were not problematic, as the researcher conducted observations of students and teachers on a daily basis, the interviews presented the concern of validity. Quite simply, the principal interviewed the students, which could potentially affect the answers that students gave and could taint the results of the study. This issue was the subject of great discussion in early and ongoing evaluations of the validity of the research, and the study took

precautions to decrease this particular limitation. First, the researcher/principal does not convey a negative or unfriendly persona to students at RMS. In fact, the students view the principal as a kind person who helps them succeed, as evidenced by a recent student letter that stated, "You make middle school a wonderful place to be. I know I can always count on you to be there for me and the other students." Additionally, the principal is highly visible to the students and families in the school. One parent email stated, "[My daughter] went to [former school] last year, and after a whole year of school events I still would not have known the principal or assistant principal if they were behind me in line at the grocery store. It is not so with [RMS], and what a difference that makes to the students and the school as a whole." The principal spends one hour every day with the students in the lunchroom, chatting with students and pushing the trash can to collect lunch trays. From this daily hour of time with the students, the principal knows when any student is having a bad day, who is dating whom, when a student gets a haircut, and what is popular with adolescents. In the cafeteria, in classes, and around the school, students interact with the principal in an easy-going, non-threatening manner, and the principal makes it a point to create a warm, positive culture for students and staff at RMS.

Beyond this, however, the researcher took certain precautions in an attempt to alleviate the potential validity concern from the principal as researcher. As noted in the study's methodology, the researcher conducted all interviews in a cozy room adjacent to the school library, which was an intentional effort to mitigate the possibility of students being nervous about having an interview with the principal. At RMS, the library is the heart of the school, physically and emotionally. It is a safe, friendly space for students, and conducting the interviews in this space set the students and principal in an equal,

comfortable climate. In addition, the principal/researcher was sure to behave and dress in a likable, casual manner before and during the interviews. The principal provided refreshments, made sure to smile throughout the interview, and made kind small talk through the introductory proceedings. In addition, as each interview was getting started, the researcher reminded the students to be honest, as this interview was not pertinent to their teachers or themselves as students but was a scientific study to understand how grading for learning was working at RMS. Furthermore, the researcher utilized the interview to the double technique to help students feel one-step removedso that a student would be describing a twin's actions, not their own. The researcher can verify that students were extremely comfortable discussing their perspectives throughout each interview, and never did the researcher feel that students were being anything other than honest, forthcoming, and focused on providing information that the researcher was seeking. Finally, the researcher has been an educator for over twenty years, which has resulted in a natural ability to relate with adolescents easily and openly. For all of these reasons, the researcher felt that the study negated the risk of internal validity to every extent possible.

A third limitation was simply the overall imprecision of measures that can occur with a qualitative research study of minors. The IRB-approved interview protocol allowed for some open-ended questioning, but given the normal constraints of time and inability to ask for every detail about every aspect of the students' interactions with standards-based grading, the data show one piece of the larger puzzle. However, the random selection of students from three different achievement levels, along with the

support of classroom observations and artifact data, present a well-rounded picture of RMS students' experiences with grading for learning.

Finally, this study occurred in a school that benefited from ideal circumstances with regard to standards-based grading. A brand new school building attracts top quality teachers, and the principal was easily able to hire exceptional teachers who were fully committed to grading for learning. Being a new school, staff members were still bonding and establishing their identities, and they followed the school rules and protocols with fidelity and respect. Standards-based grading and growth mindset were fundamental ideals of the school from the very beginning, and inaugural staff members actively worked to ensure they were upholding the spirit of the organization. Therefore, the final study limitation was that this research occurred in an ideal context.

Future Prospects for Research

There are further research possibilities that stem from this project, all of which capitalize on elements that were not present in this particular study. This study did not examine teacher perspectives on standards-based grading. It would be quite interesting to reframe both research questions with a focus on teachers, or even parents, in their making of meaning and forming of mindsets in response to implementing or experiencing the practices of standards-based grading. In addition, this study did not collect quantitative data regarding student mindset qualities adopted over time. Future research might examine student survey responses regarding their mindset towards learning at the beginning, middle, and end of their experiences with standards-based grading, as Dweck (2006) and others have developed surveys for such purposes. Finally, it would be powerful to study the development of student meaning and mindset at a different type of

school, such as an established school that recently transitioned to standards-based grading or at a school with types of students, related to grade level, demographics, or population size. The possibilities for making connections between standards-based grading and mindsets provide exciting future research opportunities.

Conclusions

In conclusion, this study answered the two research questions that it sought to understand. With regard to the meanings that middle school students made from their interactions with the practices of standards-based grading at a new middle school, the study identified five findings. First, students appreciated that learning takes time and effort and, second, that we all deserve multiple chances to learn. Third, students felt that grades are important but so is learning, and fourth, grading practices of teachers should reward time, practice, effort, and perseverance. Finally, this study identified that students hold personal, decision-making power with regard to their own learning. With regard to the mindset qualities that middle school students adopted from their interactions with the practices of standards-based grading at a new middle school, the study identified six key findings. First, students believed that they could change their learning potential through time and effort and, second, that giving effort or practicing was not a sign of lesser talent or intelligence. Next, to students, a moment of failure was not hopeless or defining but was simply a problem that they could remedy by learning from it and trying again. Fourth, students identified that people who cared about them valued improvement and growth. In addition, they realized that their ultimate potential for learning was not determined. Finally, they believed that some challenges required time and effort that they could not, or would not, give.

This research occurred at a new middle school in a middle class suburb of a major southeastern city. Students and families at this school care about learning, grades and achievement, and their school as a whole. In addition, teachers at this school were hired to support the philosophy of standards-based grading and the growth mindset, and through much careful preparation and organization, the school's grading for learning protocols were implemented with fidelity and consideration for the challenges that other schools had experienced during their own implementation. This study, then, benefited from ideal circumstances, and the positive findings from this research are indicative of a broader success that has happened and is happening at RMS. The findings that students were embracing meanings that defined a learning-focused outlook on schooling and grading, and that students were shaping a mindset based upon celebrating growth and trying again, were confirmation of the strong connections that can be made between a grading for learning structure and a growth mindset-oriented school culture. For these reasons, this research study has made important strides towards a deeper understanding of grading and mindsets and has affected the students, families, staff, and principal/researcher at RMS now and in the future.

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APPENDICES

APPENDIX A

IRB-Approved Interview Questions

Introductory (Purpose: to build rapport and establish comfort)

   1. How has your school year been going so far? Which subject is your favorite?

 "Interview to the Double" (Purpose: to use the Practice Theory interview technique of

Interview to the Double, which focuses the participant on practices)

   2. Pretend you had a twin and you wanted to trick your teachers. What would your

      twin do during flex time so that your teachers didn't know it wasn't you?

Survey-style Interview Questions (Note: At Riverside Middle School, the students know

the difference between a summative test and a formative test. Among other differences,

students know that summative tests are graded, and formative tests are not graded. The

terminology "summative" and "formative" are used in every classroom, every day.

Teachers identify tests and projects as summative or formative.   Also, all students know

and use the terminology of "grading for learning." It is part of the daily vocabulary in the

school and classrooms.)

   3.   If you make a "B" on a summative test in your math class, do you

        a. Retake it

        b. Not retake it

        c. Other

    Please explain why you would make that choice.

4. If you make an "A-" on a summative in your English class, do you

    a. Retake it

    b. Not retake it

    c. Other

Please explain why you would make that choice.

5. You were in 6th grade last year. If you made a "B" on a summative test last year, did you:

    a. Retake it

    b. Not retake it

    c. Other

Please explain why you made that choice.

6. How often do you go to Boost?

    a. At least once or twice a week

    b. A few times a month

    c. Once a month

    d. I've never been to Boost

    e. Other

7. We have "grading for learning" at RMS. Do you like grading for learning more or less than the regular grading (like you had last year)?

    a. More

    b. Less

Please explain.

APPENDIX B

Author Permission to Reprint Figure

From: Marcelo Bispo <marcelodesouzabispo@gmail.com>
Sent: Thursday, June 8, 2017 4:35 PM
To: Kari Miller
Subject: Re: Seeking permission to utilize your practice-based data analysis framework in my dissertation

Dear Kari,

Thank for your contact. I'm glad that you enjoyed my work and would like to use it. Of course that you can use it, I've done it for this proposal. I wish you success in your dissertation, and I would like to read it. Please, send me a copy. If you need anything else, just let me know!

Best wishes,

Marcelo

Marcelo de Souza Bispo

Associate Professor at Federal University of Paraíba - Brazil

Management Department

Leader of Learning and Knowledge Research Group (NAC/UFPB) -
http://www.ccsa.ufpb.br/nac/

Editor-in-chief of Theory and Practice Management Journal (TPA) -
http://periodicos.ufpb.br/index.php/tpa/

Leader of Work Group 4 EOR/ANPAD - Ontology, epistemologies, theories and methodologies in organization studies

2017-06-08 15:01 GMT-03:00 Kari Miller <klm9m@mtmail.mtsu.edu>:

Dear Dr. Bispo,

Greetings!

My name is Kari Miller, and I am a doctoral student at Middle Tennessee State University in the United States. For my dissertation, I have completed a study in which I researched how middle school students made meaning and shaped their mindset from the practices of their school grading procedures. I used a practice-based approach for my research.

I am emailing you to seek permission to reproduce a figure that you used in your article "Methodological Reflections on Practice-based Research in Organization Studies," from *Brazilian Administration Review 12*(3) in July/September 2015. The figure is entitled "Practice-based Data Analysis Process Framework."

I would sincerely appreciate your permission to reprint your figure in my dissertation, as your work truly guided the data analysis structure in my study. Of course, a full citation will be included with the reprinting of your figure.

Thank you so much for your consideration. In addition, thank you for your excellent work in the realm of practice-based theory in organization studies.   I learned a great deal from your article, and it certainly informed my work.

Sincerely,

Kari Miller

Doctoral student, Middle Tennessee State University

APPENDIX C

District Permission to Conduct Research

From: Julie Wilson
To: Kari Miller <karim@wcs.edu>
Cc: Charles Farmer <charlesf1@wcs.edu>
Subject: RE: Research approval question

Hi Kari,

I apologize for the delay in responding. I have been out of the office with sick children and sick myself.

The Review Committee has granted its approval for you to begin your project, "The Development of Student Meaning and Mindset Through the Practices of Standards-based Grading", as previously submitted.

Please keep in mind that all student information is to be kept confidential and anonymous. Additionally, neither the school nor the District can be identified by name in your dissertation or any other written material.

Please let me know if you have any questions or need anything else.

Thank you,

Julie

Julie Wilson

Research and Development Analyst/Recruiter