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Pamela Williams
Gardner-Webb University, pwilliams12@gardner-webb.edu

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MAKING THE GRADE: AN EXPLORATION OF SECONDARY TEACHER GRADING PRACTICES AND EQUITY IMPLICATIONS FOR HIGH SCHOOL STUDENTS

By
Pamela Williams

Submitted to the
Gardner-Webb University College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2023

Approval Page

This dissertation was submitted by Pamela Williams under the direction of the persons listed below. It was submitted to the Gardner-Webb University College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

Jennifer Putnam, EdD Committee Chair	Date
Kristie Smith, PhD Content Specialist	Date
Jessica Van Cleave, PhD Methodologist	Date
Jennifer Putnam, EdD College of Education Representative	Date
Prince Bull, PhD Dean of the College of Education	Date

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Abstract

MAKING THE GRADE: AN EXPLORATION OF SECONDARY TEACHER GRADING PRACTICES AND EQUITY IMPLICATIONS FOR HIGH SCHOOL STUDENTS. Williams, Pamela, 2023: Dissertation, Gardner-Webb University.

Much has been written in the grading literature regarding the continued use of traditional teacher grading practices that impede effective teaching and learning, yet teachers continue to assign grades using a mixture of factors. The purpose of this mixed methods study was to explore secondary teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. Using a teacher decision-making theoretical framework and a conceptual framework focused on pillars of grading equity, this study sought to investigate how teachers perceive their grading practices and how they develop their grading behaviors and to examine how these practices may impact the ability of students to demonstrate their learning. The study was conducted in a large South Carolina school district with certified ninth- through 12th-grade teachers using quantitative survey data and individual interviews. An analysis of study results revealed that grading variability continues to exist among teachers, they typically develop their grading behaviors in the absence of evidence-based training, and many of their inequitable grading behaviors may be placing students at academic risk. The impact of these findings and recommendations for achieving a vision of equitable grading are shared.

Keywords: equitable grading, teacher grading practices, secondary teachers, grading behaviors, grading inequity, teacher decision-making

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Chapter 1: Introduction

Grading is a ubiquitous practice that teachers are expected to perform to report student progress (Feldman, 2019b; Guskey, 2015; Schneider & Hutt, 2014). Allen (2005) and Sadler (2009) agreed that grading is an essential area of teacher decision-making that necessitates an effective decision-making process. Students and their parents rely on classroom and report card grades for updates on learning growth based on the natural assumption that the grades received strictly reflect learning performance (Reeves, 2016); however, researchers have questioned the level of subjectivity involved in the teacher grading process (Guskey & Brookhart, 2019), and studies have concluded that grades do not necessarily perform their primary responsibility of relaying student achievement (Cizek et al., 1996; Guskey, 2015; McMillan, 2001; Stiggins et al., 1989).

Background

The most common purposes for grading are ranking, reporting, and giving feedback about student performance (Brookhart, 2003). In most school systems, a summative evaluation of student performance is given in the form of report card grades over a designated time period, such as a quarter or semester. Classroom teachers are responsible for using assessments to determine what students know and what they can do at fixed points in time (Marzano, 2010). They score these assessments and use them to generate a grade based on an evaluation of student work (Quinn, 2013), yet several studies have confirmed that teachers use criteria not related to student achievement such as ability, effort, and behavior to calculate grades (Cizek et al., 1996; Cross & Frary, 1999; McMillan, 2001; Sun & Cheng, 2015). As such, it is entirely possible for teachers in the same department who teach the same grade level and subject to calculate grades

differently based on individual grading factors and criteria.

Guskey (2009) and Feldman (2019a) reported findings that highlighted points of concern pertaining to grading conventions and teacher grading practices. Guskey (2009) demonstrated grading variability among teachers by listing criteria teachers often use to calculate a grade, including academic and behavioral factors as described above. Additionally, Feldman (2019a) discussed irregularity among teachers regarding the purpose for grading by listing the following ways teachers may use grades: to let parents know how students are performing; to allow students to see their learning progress; for placement into special programs and services; as a reward for learning; and to serve as documentation of student learning efforts.

Reeves et al. (2017) asserted that it is rare to find cases where teachers are given a clear set of guidelines to follow that will raise student achievement, including effective assessment and grading practices. Lack of a uniform grading policy and purpose for grading in schools and districts has forced teachers to create their own grading methods (Marzano, 2010). It is the teachers' responsibility to decide what factors they will consider in calculating a grade, and several studies have examined how teacher knowledge, experience, and beliefs impact teacher grading behavior (Kunnath, 2017; Lee, 2019; McMillan, 2001; McMillan, 2003; Randall & Engelhard, 2009, 2010).

One explanation for the network of factors impacting teacher grading practices is a lack of formal assessment training incorporated into teacher preparation programs (Feldman, 2019d). It is not unusual for teachers to begin their careers without formal assessment training and to develop grading systems based on what they remember from their own experiences as students (Schimmer, 2016). Consequently, many teachers are

left to develop grading methods without an awareness of what is effective or ineffective (Alm & Colnerud, 2015; Feldman, 2019b) and may model their grading practices after what they experienced as students or observe from colleagues (Guskey, 2009). This variation in grading policies makes it possible for students with similar academic performance to be awarded different grades and may result in grading that is not directly tied to academic achievement (Feldman, 2019a, 2019b, 2019d); if grades are constructed based on a variety of factors, it is difficult to determine exactly what they are intended to communicate to teachers, students, and parents (Kunnath, 2017). The myriad issues surrounding teacher grading behaviors within traditional grading systems are explored further in Chapter 2.

Purpose of the Study

Grading continues to be an area of school improvement lacking regulatory oversight and one in which educators adhere to policy more in claim than in practice (Reeves et al., 2017). Guskey and Brookhart (2019) noted that current grading practices have been grounded in what worked in the past rather than relying on research-based best practices. Reeves (2016) asserted that adhering to personal experience is human nature and that this instinctive inclination explains educator resistance to modifying grading practices despite having evidence that supports change. Teacher reluctance to adjust their grading practices was supported by Marzano (2000), who stated that despite the many classroom changes brought about by the 21st century technological evolution, classroom teachers continue to utilize the grading system established during the previous century despite problematic issues associated with grading (Brookhart, 1991, 2015); however, a growing number of districts across the country have begun to reconsider traditional

grading policies.

In a 2021 article written by Esquivel, Feldman asserted that much of this concern about inequitable grading practices was triggered by a rising number of Ds and Fs assigned to students during the recent COVID-19 pandemic. He believed that the ballooning number of students negatively impacted by traditional grading practices increased at a rate that forced educators to confront the issue. District X is an example of a district that attempted to address this problem.

In the fall of 2022, District X introduced a K-12 grading expectations document to teachers. This document was created by a district task force as a result of discussions that began in the spring of 2021. According to a school administrator who served on the task force, dialogue about grading practices was initiated due to a high level of grading variability highlighted during the pandemic; thus, a districtwide task force was convened to receive input from district and school administrators, teachers, parents, and students with a goal of clarifying the purpose for grading and defining grading expectations at each level within an equity context.

The purpose of this research study was to explore secondary (Grades 9-12) teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. This topic may be of interest to district and school leaders who wish to better understand how decisions on grading practices are made. Results may be beneficial to educators who wish to examine the equity of grading practices in their sites or districts. Study results may help school and district administrators, as well as educators, better understand how grading behaviors are formed and how these behaviors may impact students' ability to

show what they know and are able to do when traditional grading practices are implemented. The study might also prompt educators to consider how they could improve student learning and better support the academic growth of their students by creating conditions that promote success for all students.

Study Significance

Grading is a standard practice performed by classroom teachers. Grades are one of the primary ways that teachers determine and report student learning, and this process translates to how student achievement is measured. Reeves (2016) and Feldman (2019b) agreed that few factors have a more profound impact on a student's academic career than the traditional grading system used throughout public school systems. Summative grades recorded on student report cards play a significant role in schools across all levels. At the secondary level, the potential long-term impact of grading begins to assume more importance for students. The summative grades U.S. high school students receive on report cards translate to grade point averages (GPAs) that may affect admission to college, scholarship awards, and other academic opportunities. Grades determine if students will receive academic recognition and how students are ranked in comparison to classmates; grades may also impact college acceptance and scholarship qualification (Feldman, 2019b). The importance associated with grades was echoed by Quinn (2013), who suggested that students take grades seriously in large part due to the perception of future impact. It is also possible for students to be affected beyond the school realm during their young adult years when grades may be examined during initial employment or while attempting to secure car insurance (Feldman, 2019b).

Current U.S. grading practices put into place more than 100 years ago were

designed to address the needs and problems within the historical context of the time (Feldman, 2019b). During the previous century, compulsory education laws and larger schools required a more efficient means of reporting student progress to sort students and share information with colleges or employers. Since the early 20th century, educators have attempted to operate schools with the same level of efficiency as manufacturing plants and have used grading scales within a factory model system to sort and track students based on performance (Feldman, 2019b; Schneider & Hutt, 2014). Although 21st century schools bear little physical resemblance to the previous century, the grading systems conceived during that era continue to persist (Feldman, 2019b); however, just as other educational practices have evolved and changed over time, the way teachers grade should also be adjusted to "replace the traditional view of grades as a commodity or reward" (Schimmer, 2016, p. 3).

Erickson (2010) reported that traditional teacher grading behaviors such as calculating grades using a point system, using percentages, factoring behavior into grades, awarding extra credit, and grading on the curve can potentially harm students and diminish opportunities for success. Likewise, grading scholars such as Brookhart (2003), Guskey (2015), Hattie and Yates (2014), Marzano (2010), and O'Connor (2011) presented evidence that grading practices that include averaging final grades and assigning zeros on a 100-point grading scale are toxic and harm students' academic and behavioral outcomes. Although grading has been a controversial topic among teachers (Guskey & Bailey, 2001) and an area that many educators do not want to change (Feldman, 2019b; Reeves, 2016), grading reform advocate Joe Feldman (2019b) proclaimed the persistent "use of traditional grading practices contradicts and even

undermines effective and equitable teaching and learning" (p. 28). Research findings such as these support the need to understand the reasoning behind teacher grading practices that may take the form of rewards or punishments, which influence learner motivation.

There is a copious amount of literature available regarding teacher grading practices, teacher decision-making, the dichotomy between theory and practice, and reform efforts; however, the bulk of grading research was produced in the past 3 decades, and the number of current studies available in the past 10 years is significantly smaller. Research addressing teacher grading practices and equity is particularly limited. This research may be added to existing studies that encompass teacher grading but focused specifically on teacher grading practices at the high school level.

Research Questions

The following four research questions guided the study:

1. How do teachers perceive their grading practices?
2. What factors do teachers report that they consider when assigning student grades?
3. How do teachers describe the evolution of their grading practices?
4. What are the equity implications of teacher grading practices?

The research methodology and instruments that were implemented to address these research questions are outlined in Chapter 3.

Theoretical Framework

A teacher decision-making model for classroom assessment served as the theoretical framework for this research study. McMillan and Nash (2000) created this

model to explain the network of factors and beliefs that govern how teachers process assessment decisions about student work. Kunnath (2016) adapted the decision-making model and organized the original network into three domains. He summarized the three domains as follows: Domain 1 consists of the "knowledge, beliefs, expectations, and values" (Kunnath, 2017, p. 70) that are developed by teachers through professional training and narratives developed through life experiences. Domain 2 is the "external factors" (Kunnath, 2017, p. 70) that are outside of the classroom that affect grading. Examples may include the student's family unit, administrators, and standardized testing. Domain 3 is referred to as "grading practices" (Kunnath, 2017, p. 70), which are the specific protocols teachers use to assign summative grades.

This decision-making schema suggests that there may be an intricate web of interaction among the three domains that influences teacher grading behaviors. The framework was used in this study to analyze how teacher knowledge, beliefs, expectations, values, external factors, and classroom realities may impact teacher grading decisions and practices. I considered this analysis of teacher grading practices within the context of Feldman's (2019b) equitable grading framework.

Conceptual Framework

Feldman (2019a, 2019b, 2019d) contended that grading is one of the most powerful ways educators can impact students, and grading variability among teachers creates misunderstanding for students about learning performance. Feldman (2019c) proposed that teachers may counteract the inequities present within traditional grading practices by doing the following: ensure that grades are calculated accurately by using formulas that encourage learning growth rather than dooming students to fail; restrict

grading to focus on how well students have mastered the content rather than including unrelated factors such as behavior; evaluate students only on their level of content mastery; encourage a growth mindset by normalizing mistakes; create transparency by simplifying grades and making it clear to students how they can be successful; avoid relying solely on grades to motivate students; and teach students to monitor their own learning and focus on building intrinsic motivation. These concepts of equitable grading, supported by what Feldman (2019b) called the three grading pillars, require that grades are accurate, bias-resistant, and motivational. I used this conceptual framework to examine whether grading practices utilized by the participants in this study aligned with these three pillars of grading equity.

Definitions of Key Terms

The following terms are defined to provide context for understanding the information referenced throughout the study. Unless otherwise noted, definitions are mine.

Academic/Student Achievement

The extent to which a student has achieved learning goals according to predetermined standards.

Assessment

Defined by Marzano (2010) as activities conducted by a teacher to determine student acquisition of knowledge and/or skills.

Evaluation

Any process involving judging a work product for the purpose of determining what students learned.

Formative Assessment

Used to administer learning tasks to monitor student progress and provide feedback to improve learning and guide teacher instruction (Marzano, 2010).

Grading

A process wherein symbols or marks are assigned to report student performance (Quinn, 2013).

Grading Bias

May be implicit or explicit. It occurs when teachers make judgments about students when grading based on factors such as race, income, ability, gender, and first language, rather than objective evidence of student learning performance (Feldman, 2019b).

Grading Equity

Within educational realms, equity is created when systems are established that support students based on their individual needs. Grading equity is defined as grading practices that provide every student the opportunity to succeed by eliminating factors that reduce grading accuracy and promote disparities among students (Feldman, 2019a, 2019b).

Grading Factors

Evidence or sources teachers use to make judgments when assigning student grades (Guskey & Link, 2019a).

Grading Inequity

Created by unfair or unjust grading practices that contribute to gaps in student learning performance as a result of barriers that prevent equal opportunities for students

to demonstrate their learning. Grading inequities may disproportionately affect certain groups of students (Curry, 2020; Feldman, 2019b).

Grading Practices/Behaviors

Any methods or procedures teachers use to calculate and assign student grades.

Grading Reform

Efforts aimed at altering how students are graded to decrease student failure and help improve learning.

Grading Scale

A system created to define and explain grades.

Inequitable Grading

Involves teachers using various grading practices to create the possibility for students with similar academic performance to earn different grades based on unrelated academic criteria (Feldman, 2019a, 2019b).

Teacher Perceptions

For the purpose of this study, teacher perceptions are defined as the understanding and knowledge teachers have about grading.

Traditional Grading Practices/Behaviors

A system of grading established in the early 20th century. In a traditional grading system, grades may be based on a combination of knowledge, skills, and other factors such as behavior and effort. These practices may be considered subjective and biased in nature and may lead to communication of inaccurate information (Feldman, 2019b).

Conclusion

Assessing student work and assigning grades to report student progress using a

traditional grading system has remained a consistent teacher practice despite shifts in the educational landscape; however, in recent years, researchers such as Reeves (2016), Guskey and Brookhart (2019), Feldman (2019b), Quinn (2013), and Schimmer (2016) began to shed light on the problem of using traditional grading systems, which lack validity and reliability. Although these issues exist, most teachers are continuing to use practices and produce grades without the benefit of a uniform system.

This study is presented in five chapters. The first chapter introduced the problem, shared the study's significance and purpose, listed the research questions, outlined the theoretical and conceptual frameworks that guided the research study, and defined key terms. Chapter 2 provides a detailed literature review and explains how the theoretical and conceptual frameworks apply to the study. The second chapter also addresses how the data obtained through the study address current research gaps. Chapter 3 details the study methodology and research methods. This chapter explains the research plan and the rationale for utilizing specific research tools. Chapter 4 contains a report of data findings and results. This chapter addresses the answers to the research questions based on the analysis of the collected data. Finally, Chapter 5 discusses the study's findings, makes connections to previous research findings, connects results to the theoretical and conceptual framework, summarizes and interprets the study results, proposes recommendations for educators and school administrators, and offers suggestions for additional research.

The upcoming chapter shares the work of grading researchers and describes the historical roots of current grading practices, subsequent problems with traditional grading practices, and efforts at grading reform.

Chapter 2: Literature Review

Overview

The purpose of this research study was to explore secondary (Grades 9-12) teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. This chapter reviews the research related to grading and teacher grading practices. The literature review focuses on the historical context of grading and issues surrounding various grading practices. Information presented in this chapter includes seminal and current grading research and the theoretical and conceptual framework for the study. Traditional grading practices are explained, and various viewpoints on specific grading behaviors and alternative grading systems are introduced. The following keywords and search terms were used to focus the literature review on the research questions: grading, grades, teachers and grading practices, teacher grading behaviors, teachers and grading decisions, grading equity, grading and assessment, history of grading, traditional grading practices, grading reform, grading systems, grading and motivation, evaluation, assigning grades, and report cards.

First, I provide context and history for the establishment of the traditional grading system in the United States. A discussion of the purposes for grading and the difference between grading and assessment follows. Teacher grading practices and issues with the traditional grading system that may impact student achievement are examined. Next, various grading systems developed due to grading reform efforts are explored. The final section of the literature review delves into the theoretical and conceptual frameworks I used to analyze the study topic.

History of Grading in United States Schools

Feldman (2019b) acknowledged that before we can question current grading practices or address issues within the traditional grading system, there must be an understanding of how and why this system was initially established. Understanding the history of the traditional grading system will provide context for some of the current grading practices used by teachers. Although it may appear that grading has been a ubiquitous and standard professional exercise for teachers, grades were not originally a standard educational practice in the United States. The need for a grading system arose because of societal demands (Schinske & Tanner, 2014). The history of providing feedback about learning extends back to ancient Greece when Plato was a student of the Greek philosopher Socrates (Feldman, 2019b); however, grades were not always a fixture of American education, nor did they look the same, serve the same purpose, or make the same impact (Schneider & Hutt, 2014). The formal grading structure that contemporary educators are familiar with came into existence in response to a specific shift in the political, social, and economic landscape in America. The focus veered from rural agricultural communities to industrial manufacturing (Feldman, 2019b; Schinske & Tanner, 2014). This progression sparked the transformation that took place in schooling during the 19th and 20th centuries.

The 19th Century

According to Tyack (1974), during the first part of the 19th century, most children were educated at home rather than at school. The number of children attending school was small, and the academic year consisted of a 78-day school calendar (Snyder, 1993). Classrooms contained students of various ages and abilities learning together, taught by

primarily female teachers with limited formal training. This classroom setting was appropriate for the 19th century national economy, which was centered on agriculture and rural living conditions (Tyack, 1974), but at the beginning of the 20th century, the rise of manufacturing led to multiple changes related to the economy, politics, and science that impacted schools (Feldman, 2019b).

Schooling in the 20th Century

Tyack (1974) explained that by the beginning of the 20th century, the American economy began to shift from agriculture to manufacturing. The demand for a skilled workforce to fill the factories led to a need for formal schooling. This growth in the manufacturing labor market also drove the need for greater efficiency, and the new industrial model infiltrated the school system (Feldman, 2019b). In addition to the wave of manufacturing taking place during the 1900s, a conglomeration of other factors credited with influencing the establishment of modern-day American schools were progressive education ideals, migration and immigration, intelligence testing, and behaviorism.

Feldman (2019b) attributed the change in attitude about schooling purposes and how schools were designed to the massive and diverse influx of students, due to migration from rural areas to cities and immigration from other countries. Schools needed to properly prepare the growing number of students for employment in the factories. Evidence for this educational transition was supported in documentation signed by a group of college and school administrators in 1874. The authors of that document outlined and sanctioned a list of specific skills required to equip the future labor force: punctuality, regularity, attention, and silence (Tyack, 1974). It was believed that utilizing

a behaviorism philosophy structure based on shaping behaviors through extrinsic reinforcements could promote these skills and teach students how to act accordingly in preparation for the factory job force (Feldman, 2019b).

In a historical text titled *Mental Tests and The Classroom Teacher*, Dickson (1923) noted that at the beginning of the 20th century, great importance was placed on employing intelligence tests to group students and select curriculum deemed to be appropriate for their ability levels. This strategy was used to match students with the appropriate course of study. The scores on these tests could make the difference between whether a student was placed on a track leading to higher academic pursuits or one suited to vocational work (Feldman, 2019b). Although educators such as John Dewey believed that schools should serve the democratic function of offering a universal educational curriculum to all students (Dewey & Hinchey, 2022), the testing and grouping of students based on ability were in direct opposition to these ideals. The industrial approach to schooling became favored among factories and schools during the latter part of the 20th century. Feldman (2019b) credited five factors with laying the early groundwork for perpetuating behaviors like timeliness, compliance, and silent attentiveness that many educators continue to endorse in schools today: manufacturing, democratic ideals, intelligence testing, migration and immigration, and behaviorism. The premium placed on this type of compliant behavior may be the root of inequitable grading practices in 21st century schools.

The 21st Century Shift

As the 20th century manufacturing and industrial approach to schooling began to shift going into the 21st century, so did the purpose of schools. Facing a growing cultural,

linguistic, and economically diverse population, schools were now expected to "Americanize" (Feldman, 2019b, p. 21) their students by instilling the "discipline and habits" (Feldman, 2019b, p. 21) expected of factory workers; therefore, Feldman (2019c) claimed that schools established policies and grading practices that reinforced behaviors and skills desired by the White majority. These traditional grading practices were more concerned with promoting compliant behaviors and increased the likelihood for students to experience bias based on personal characteristics. Unfortunately, many school systems in the 21st century have continued to use these practices, and such biases can interfere with teachers' ability to provide students with what they need in order to be successful (Feldman, 2019b, 2019d; Ledlow, 2022).

A National Grading System

Just as schools experienced a transformation in response to the spirit of the time, so did the K-12 grading system. The growth of larger schools and compulsory education shifted the focus of grading in America from one of communicating student progress and sharing information locally with families to one in which achievement was shared externally (Schneider & Hutt, 2014). When students attended smaller, rural schools, it was not unusual for families to receive oral reports or handwritten notes to disclose student progress (Guskey & Bailey, 2001). This information was subsequently used by teachers to make future instructional decisions and determine student eligibility for higher education or learning a trade (Craig, 2011); however, once compulsory education laws were passed, schools grew and there was a greater need for a clear and efficient reporting system. This need demanded a more standard and universal system that facilitated easy communication of student achievement within the school and with

external organizations such as colleges and universities (Feldman, 2019b).

By the mid-20th century, grades primarily became a tool used by parents, teachers, school administrators, college admissions officials, and employers to provide information on a student's academic ability and achievement. Schneider and Hutt (2014) proposed that grading systems initially established in America were modeled after European ideals that embraced competition, awards, and ranking for instructional purposes. During the early 20th century, colleges and universities were already using an A-F grading system to measure how well students performed relative to their peers, and the letter grade system eventually trickled down to secondary schools (Cronbach, 1975). Artifacts obtained from Harvard and Mount Holyoke during the late 1800s documented evidence of students receiving letter grades that correlated with a percentage range to represent a score. This implementation marked the initial use of the A-F grading system associated with the 100-point grading scale that we are familiar with today (Schinske & Tanner, 2014).

The 100-Point Grading Scale

The need for consistency was behind the impetus for organizing grading systems (Cureton, 1971). According to Schneider and Hutt (2014), the tension between grading form and function can be attributed to the traditional A-F grading structure. Schneider and Hutt explained this tension as a conflict between using grades to promote learning and having a system that would allow a large bureaucracy to function. The tension can be understood by considering the historical view that grades could be objectively represented across a normal distribution through a bell curve. In the early 20th century, there was a push for educators to have a clear-cut method for sorting students through a definitive measurement process.

In one of the most used grading systems, a grade is given in the form of a number from 0-100, which is translated to a letter in the A-F range (Quinn, 2013). When students are graded using a 100-point scale, they are assigned a score based on a ratio of points earned divided by the possible number of points that could be earned on an assignment or assessment. This number is calculated as a percentage score from 0-100, which then may be converted to a letter within the A-F spectrum (Feldman, 2019b). Guskey and Brookhart (2019) explained that in the United States, these systems are typically represented in one of two ways: 90-100 = A, 89-80 = B, 79-70 = C, 69-60 = D, and 59-0 = F or 93-100 = A, 85-92 = B, 77-84 = C, 70-76 = D, and 69-0 = F. Guskey and Brookhart asserted that this was an attempt to achieve scientific precision and accuracy in grading by establishing a performance scale that would yield a normal distribution of scores.

By the 1940s, the A-F grading scale became commonplace in schools despite pushback from some teachers who were opposed to issuing grades within the confines of a “fixed distribution” (Schneider & Hutt, 2014, p. 213). There was speculation that teachers chose to overlook their concerns for fear of losing professional autonomy because they would be perceived as lacking the ability to accurately and reliably evaluate students. During the 1960s, the A-F grading system was labeled a “traditional” (Schneider & Hutt, 2014, p. 215) fixture in American education and was in use by over 80% of schools the following decade; however, a review of the grading literature included multiple examples of the mathematical flaws grading researchers believed were inherent within the traditional 0-100 grading scale system. These flaws included wide variance due to numerous performance descriptors and disproportionate weighting within

the range of numbers on the scale (Feldman, 2019b, 2019d; Guskey & Brookhart, 2019; Quinn, 2013; Reeves, 2016; Schimmer, 2016).

21st Century Grading

Despite vast changes in technology and new research on effective teaching and learning practices, many educators in the 21st century still use a traditional grading scheme. These practices continue despite the absence of supportive research (Marzano, 2000), and little change has occurred. Just as the steel bar known as the third rail is deemed essential to the function of a train because it conducts electricity needed for it to run, Erickson (2010) used the analogy of the third rail to describe the level of importance grading has in education. This comparison elucidated the risk Erickson said educators feel when confronted with the possibility of changing grading policies and practices.

Debate surrounding grading systems in the 21st century cited numerous issues questioning the wisdom of continuing to use these traditional grading practices. The literature focused on problems with grading, including the wide variability of grading practices among teachers, the use of nonacademic factors in grading calculations, and questions surrounding the authenticity of using grades to accurately portray student learning. A summary of research completed by Marzano (2000) and Guskey and Bailey (2001) included evidence that showed grades are a combination of student behaviors and that they are seldom calculated using academic achievement as the singular convention for consideration. Alm and Colnerud (2015) suggested that there is wide variability in how teachers grade because there are idiosyncrasies in what is prioritized. Subsequently, using arbitrary procedures produces barriers for students (Morrison, 2003). Furthermore, Guskey (2006a) stated that it is impossible for a single grade to represent an entire

spectrum of student performance, and Morrison (2003) asserted that grading is counteractive to the mission of creating lifelong learners. The potential impact of grading on students mentioned in the literature included long- and short-term consequences of grades on student motivation, student perceptions of themselves as learners, and their future educational choices (Brookhart, 2009; Brookhart et al., 2016; Brookhart et al., 2006; Docan, 2006; Feldman, 2019b, 2019d, 2020; Gonser, 2020; Goodwin & Rouleau, 2020; Kohn, 2011, 2018; Rodriguez, 2004; Thomas & Oldfather, 1997).

This dissatisfaction with the traditional grading system has prompted efforts to reform grading for decades (Guskey & Brookhart, 2019). Proponents for change have made recommendations for schools to shift to standards-based grading or even consider the radical act of going "gradeless" (Hunt, 2019, p. 11); however, before considering how instituting these grading reforms might remove potential barriers for students, it is beneficial to have insight into the controversies surrounding grading, including the purpose of grading.

Purpose of Grading

Morrison (2003) asserted that grades are important because they communicate to others what students have learned, but Reeves (2016) stated that the way educators view the purpose of giving grades is at the heart of the disagreement over grading. Typically, grades serve one of the following functions: They provide feedback to improve student performance by clarifying what they do or do not understand; they give parents information on how students are performing in a class and progressing toward meeting learning goals in the form of grades on quizzes, tests, and report cards; they inform and guide instruction by indicating to teachers the extent to which students have mastered

content knowledge and skills; and they serve as a student reward for positive academic performance or as punishment for poor performance through the award or denial of participation in academic programs, scholarships, and advanced classes (Reeves, 2016). Although it makes sense that using grades to give students feedback for the purpose of improving learning and informing instruction is a priority for educators, Reeves (2016) observed that grading policies reveal a preoccupation with using grades for the purpose of rewarding, punishing, or publicly noting differences among students based on performance.

Quinn (2013) stressed that how grades are defined determines the purpose they serve. Although a grade is a label applied to student work, Quinn contended that there is a larger context that must be considered when considering what that grade represents. Quinn maintained that educators must question their reasons for giving grades to understand the potential implications for how they were used. Grades that are given to drive instructional decision-making, provide motivation for students, or deliver feedback have the potential to increase student learning, but misguided use of grading systems may also be counteractive to the purposes for which grades were designed to be used (Quinn, 2013; Reeves et al., 2017). This misuse of grading was discussed in the literature in relation to the concepts of grading and assessment.

Grading vs. Assessment

The terms grading and assessment are often used interchangeably, but their goals are disparate. Grading is used to evaluate student learning based on performance, and it is not uncommon for grades to be used as an unreliable “proxy” (Carnegie Mellon University, 2023, para. 2) for student learning; this misinterpretation may be the result of

the unrelated factors often included in the grading process. Although grading may contribute to the process of assessment, unlike grading, the goal of assessment is to improve learning (Carnegie Mellon University, 2023). Assessment has been defined as the various procedures used to gather information about how students are performing to make instructional decisions (Miller et al., 2013).

Historically, classroom assessments have been used as gateways in the form of tests and final exams for students to advance to the next level, and larger-scale assessments of achievement were used to sort students and provide access to privileges like higher education (Earl, 2013). Determining if a grading system supports learning requires understanding the relationship between assessment, evaluation, and grades (Quinn, 2013). Quinn (2013) explained this relationship as a series of actions in which assessments are used as the tool, grading is the evaluation process used by the teacher, and the grade is the label assigned as the result. Teacher instruction is focused on moving students toward meeting learning targets, and assessment is a necessary part of the teaching and learning feedback cycle (Miller et al., 2013).

Reeves (2016) stated that grades may be considered just one of many forms of feedback students receive, but they garner the greatest amount of attention. Black and Wiliam (1998) noted that the main purpose of giving students feedback should be assessing students for learning to help them grow; however, this approach has taken a back seat to teachers leaning heavily on the use of summative grades as an assessment of learning. Guskey and Bailey (2001) disputed the idea that grades should be considered the most dominant form of feedback influencing student learning, citing encouraging and corrective feedback from teachers which may result in immediate student improvement.

Reeves (2016) echoed this notion and declared that schools implementing effective feedback systems but continuing to enforce “ineffective grading practices” (p. 5) may be subverting their efforts to help students learn. The process of formulating a grade as a summative assessment may have extensive ramifications on learning.

This impact on learning includes making data-based decisions, bolstering student motivation, and providing feedback. Effective grading systems should be evaluated based on the potential to use these factors to increase student learning. Since assessments are the tools used to help measure student performance and grades are the marks assigned to students as a result of evaluation, it seems reasonable that teachers should have a clear grasp on how they are using these tools in the form of grading practices (Guskey & Brookhart, 2019; Quinn, 2013; Reeves, 2016; Schimmer, 2016).

Any assessments delivered by teachers should provide students with the opportunity to show their work and for teachers to accurately deduce if learning occurred (Cizek, 2009; Russell & Airasian, 2012). When teachers fail to clearly connect grades to learning, they miss opportunities to provide insightful feedback on student strengths and weaknesses and may destroy the instructional culture in the process (Reeves et al., 2017). This incongruence communicates false information to students and their parents because their actual performance does not equate with the marks on the report card (Winger, 2005). Likewise, O'Connor (2011) and Marzano (2010) held the view that grades that do not represent accurate information should be considered invalid. Inaccuracy may ensue due to the lack of consistency in grading that occurs when individual teachers create their own assessments and assign points, thereby allowing students to earn different total scores depending on how each teacher weighted the items (Marzano, 2010). O’Connor

(2018) also stressed the need for grading consistency among teachers and asserted that student grades should not depend on which class they are in but on a consistent performance standard between teachers.

When assessment and instruction are not in line, Bonner and Chen (2019) suggested that it negatively affects grading validity, student willingness to work, and the classroom climate. Bonner and Chen believed that classroom assessments should be developed and evaluated based on their usefulness to student learning. If what is being taught and assessed is not aligned, the grades awarded to students are not accurate reflections of what was learned. When this misalignment happens, students may be tempted to withdraw from the learning process and develop distrust for the teacher, thereby creating an adverse learning culture (Bonner & Chen, 2019; Feldman, 2019b). Guskey and Brookhart (2019) believed that the only way for grades to improve the teaching and learning process is to place the attention on formative feedback instead of judgments made through summative evaluation.

Shepard and Penuel (2018) affirmed the need to abandon grading policies that endorse points for student motivation in favor of allowing students the chance to use feedback for improvement. This type of change would mean relinquishing the practice of awarding points and grades to students as a way to motivate learning and instead focus on creating an authentic culture of formative assessment in which students receive specific feedback to improve learning. Consistent and detailed feedback communicates to students how well they are performing as they try to meet learning targets (Hattie & Timperley, 2007). When grades are shared for the purpose of letting students know how they are doing, they serve the appropriate “formative purpose” (Guskey & Brookhart,

2019, p. 217) of providing students with direction toward content mastery, yet some researchers have expressed that when points are amassed to create a grade that conveys more than just academic achievement, it defeats the purpose of grading to assess learning growth.

Feldman (2019b) commented that utilizing grading systems where points are collapsed into a single grade that includes test scores, extra credit, homework completion, and behavior gives a false measure of achievement. Regardless of the knowledge and skills a student may possess, combining academic proficiency with a multitude of factors such as behavior, attendance, and effort presents a grade that is “vague” (Feldman, 2019d, p. 18) and “confusing” (Feldman, 2019d, p. 18), making it difficult to distinguish definitive strengths and weaknesses in each of these areas. Reeves et al. (2017) agreed that the use of such inaccurate measures encourages students to comply in the pursuit of points instead of seeking to learn. According to Reeves et al. (2017), student commitment to improve with the help of guided teacher feedback is more meaningful than grade markings equating to an A+ or 100. In addition to these issues about grading questioned by researchers, Guskey and Link (2019a) posited that grading is a “frequently overlooked dimension of instructional leadership” (para. 5), even though grading practices may negatively affect the ability to improve educational outcomes for students (Cohen et al., 2018).

It is not uncommon for instructional leaders to attend to the three key aspects of teaching and learning: curriculum, instruction, and assessment (Glickman et al., 2018); however, Guskey and Link (2019a) insisted that not only should administrators help teachers with what they will teach, how they will teach the content, and how to assess

learning, they should give equal attention to helping teachers effectively evaluate and communicate learning to students, parents, and other stakeholders through grading. Cohen et al. (2018) felt that this failure to address grading policies and practices inhibits instructional leaders' ability to improve student outcomes. Despite a renewed focus in recent years on instructional leadership as a key responsibility for school administrators, there does not appear to be a willingness to make changes in the area of grading, which remains the "wild west of school improvement" (Reeves et al., 2017, p. 42). Fullan (2008) outlined a list of a dozen undertakings that principals should advocate for, and Reeves et al. (2017) insisted that many of them remain relevant nearly a decade later, including changes in grading policies. Link (2019) posed the question that if school leaders are legally accountable for teacher grading based on leadership and evaluation standards, why are so few instructional leaders devoting efforts to problems linked to grading practices? Impara and Plake (1996) and Stiggins (1999) suggested it may be because much like teachers, principals and other administrators have not received preservice or in-service training on effective grading practices.

Teacher Grading Practices

Regardless of the emphasis placed on grading as a primary responsibility of teachers, researchers asserted that minimal preparation on this topic is provided prior to entering the workforce. There are indications in the literature that many novice educators enter the classroom without needed assessment skills (DeLuca, 2012; Feldman, 2020; Link, 2018; Maclellan, 2004). Feldman (2019d) stated that grading is a topic often neglected in preservice teacher education programs. Link (2019) shared that school leaders wishing to make changes to grading policies discovered that teachers did not have

fundamental training on grading and gave it little thought. Other grading researchers reiterated the conclusion that teachers are often left to develop grading practices that may not be guided by research or best practice; therefore, they grade in isolation relying on personal experiences and professional judgment or strictly follow school and district norms for grading (Erickson, 2010; Link, 2019; Olsen & Buchanan, 2019; Stiggins, 1999).

Ledlow (2022) conducted a study that found teachers experienced feelings of disempowerment and inadequacy about grading. Ledlow's results involved high school teachers and revealed that a lack of training increased the pressure on teachers to make individualized grading decisions and explained the root cause of high variability among teacher grading practices. Another study of preservice teachers found that candidates at the end of their teaching program still remained "naïve" (Bonner & Chen, 2009, p. 73) about suitable methods for assessing students and embraced an enabling approach to grading (using effort, improvement, and participation). More recent studies divulged that in-service teachers felt a sense of conflict about the need to adhere to best practice recommendations, and classroom realities, and to follow school grading policies (Chen & Bonner, 2017; Widiastuti, 2018). Without proper training, teachers may be more susceptible to letting their own experiences with grading influence their grading practices (Alm & Colnerud, 2015).

Two decades of research on teacher grading practices revealed that educators hold deeply ingrained ideas about grading that are influenced by personal beliefs, values, and experiences (Campbell, 2012; Guskey & Link, 2019b). Specific examples mentioned in the literature of the impact these elements have on grading practices include teacher

recollections of unfair grading inflicted upon them during their time as students (Colnerud, 2015), the notion that students should take sole responsibility for completing work (Ellerbrock et al., 2016), disruptive student behavior merits lowering grades (Frary et al., 1993; Green et al., 2006), grades should be used to encourage or motivate students (McMillan & Nash, 2000), and grades are a form of payment for completed work (Brookhart, 1993). Widiastuti's (2018) study yielded similar results about the grading practices of English teachers. The data showed teachers were influenced by a combination of their internal philosophies as well as pressure exerted by school/district policies, parents, and state testing. A qualitative study by McMillan and Nash (2000) reported that one of the explanations for teacher grading variability is the use of personal judgment and philosophy when deciding how to motivate students to demonstrate improved academic performance. This view is also supported by studies done by Sun and Cheng (2015) and Randall and Engelhard (2010), who found that teachers use their own ideas about effective ways to support students and other factors not related to the content, such as effort and participation, when grading.

Alm and Colnerud (2015) alleged that diverse teacher perspectives and influences on grading accounted for "significant differences between individual grading practices" (p. 134) and teachers have been blamed for working in opposition to measurement theory because their assessments and grades do not coincide with reliability, validity, or objectivity standards (Allal, 2013; Brookhart, 2003, 2013). Airasian (1997) viewed reliability as a decisive factor in grading practices; however, the literature showed there is existing evidence of teacher grading variations between grade levels as well as inside departments within the same school (Brookhart, 1993, 2017; Pivonka, 2020). DeLuca et

al. (2019) claimed there is much that remains unknown about the regularity with which grades are assigned, used, and defined across districts, schools, and teachers, and discussions about the split between grading students using research-based practices and existing teacher practices have continued to grow (Carifio & Carey, 2015).

Hodgepodge Grading

The literature review encompassed multiple research studies that suggested grading can be influenced by many factors, including student participation, work completion, and effort (Brookhart, 1993; Brookhart et al., 2016; Guskey & Bailey, 2001; Guskey & Brookhart, 2019; Guskey & Link, 2019b; Isnawati & Saukah, 2017; Kunnath, 2016; Marzano, 2000; Randall & Engelhard, 2010; Sun & Cheng, 2015). Studies published over the past 3 decades referred to these factors as hodgepodge grading, a term first coined by Brookhart in 1991 to describe the combination of factors such as ability, effort, achievement, and attitude teachers use when grading (Alex, 2022; Bailey, 2012; Cizek et al., 1996; Cross & Frary, 1999; Duncan & Noonan, 2007; McLean, 2018; McMillan, 2001; Nowruzi, 2021; Pivonka, 2020; Randall & Engelhard, 2009; Sun & Cheng, 2014; Yesbeck, 2011). The use of such extraneous factors gives credence to the idea that teachers may be making grading decisions without formal direction from their school or district. Duncan and Noonan (2007) and McMillan et al. (2002) discovered that although student academic performance was of primary importance to teachers when grading, teachers are also concerned with student effort when determining grades.

When student achievement is diluted by the inclusion of other factors, it weakens the value of what the grade is supposed to communicate. Grades also lose reliability when different teachers vary the extent to which they weigh these factors into their

grading (Guskey & Link, 2019a). A lack of grading reliability due to hodgepodge grading was echoed by Olsen and Buchanan (2019). Olsen and Buchanan claimed that when teachers use effort and participation as grading variables, grades become behavior management tools rather than barometers for learning.

Traditional Grading Practices

Grading is the one area wherein teachers have autonomy, and the way in which they grade could mean the difference between students failing and receiving academic accolades (DeLuca et al., 2019; Isnawati & Saukah, 2017; Reeves, 2008). In the grading literature, several grading researchers such as Brookhart (2015), Feldman (2019b), Guskey (2020), and Reeves et al. (2017) attempted to explain how specific traditional grading practices contradict the premise of grading equity. Table 1 provides information on some of the most common traditional grading practices used by teachers for determining grades.

Table 1

Traditional Teacher Grading Practices

Grading practice	Description
Averaging final grades	• Various score percentages are used to calculate the average (unweighted). • Established categories of scores with predetermined weights are averaged, multiplied by their weight, and added with other categories (weighted).
Assigning zeroes	• Missing or incomplete work is assigned a zero and is included in the final grading calculations.
Grading homework	• Students are given a homework grade based on submission or accuracy of completed work.
Grading behavior	• Points are deducted or withheld for work submitted past the due date, lack of class participation and effort, or classroom misbehavior.

Table 1 shows a summary of frequently implemented traditional grading methods teachers use to calculate grades (Feldman, 2019b, 2019d; Guskey & Brookhart, 2019; Marzano & Heflebower, 2011; Quinn, 2013; Reeves, 2016; Reeves et al., 2017). These practices included methods for calculating grades by averaging student performance over time, incorporating nonacademic factors such as behavior, punishing students with zeros for missing work, and assigning grades for practice.

The Mathematics of Grading

Two specific grading conventions, averaging final grades and calculating grades by assigning zeroes for missing or incomplete student work, have received the attention of researchers. Reeves (2016) pointed out that when teachers take a series of scores, add them up, and divide them to find the average (mean score) grade, they are also weakening grading accuracy. Feldman (2019b) explained this idea and criticized using the numerical average to produce a summative final grade because it is a mathematical distortion to calculate a set of scores while disregarding when the scores occurred. Using the average to calculate grades earned over time is equivalent to saying that "good students get things right the first time" (Reeves et al., 2017, p. 43) and discounts the growth students make while they are learning. Similarly, recording a zero in the gradebook for not submitting an assignment may send a false message that a student does not know the content.

Averaging Grades. Not all students learn at the same rate, and this practice puts students who may take longer to grasp a concept at a disadvantage. Totaling final grades and arriving at a score based on an (unweighted) average gives teachers the illusion of mathematical precision and does not account for the idea that all grades are not weighted equally (Quinn, 2013; Reeves, 2016). Quinn (2013) explained that assignments should be

weighed to reflect the level of importance in determining learned knowledge and skills. For example, a unit assessment should hold more weight than a less challenging classwork assignment.

Counting all grades equally through averaging also discounts the role that formative assessment plays in the learning process. Because formative assessments are opportunities for students to practice and hone new skills (Earl, 2013), quizzes and other assessments given to students during the early stages of instruction should not hold the same weight as a culminating assessment because students have had additional time and practice to hone their skills (Quinn, 2013). Points entered for assignments may cause student averages to fluctuate and may raise or dash student hopes based on how their grading average is affected. Most districts and schools have adopted the use of electronic gradebook systems, which allows parents and students real-time access to teacher gradebooks. Point systems and the mathematically imbalanced percentage scale may drive students to drop a class because they are unable to raise their grades enough to pass. Reeves (2004) predicted that these failures could potentially multiply across courses and lead students to consider dropping out of school.

Assigning Zeroes. Multiple grading researchers also shared that assigning zeros is also not a mathematically sound practice (Campbell, 2012; Feldman, 2019b; Guskey & Brookhart, 2019; Quinn, 2013; Reeves, 2016; Reeves et al., 2017). Some teachers may justify this practice by saying “no work, no credit,” but Feldman (2019b) and Reeves et al. (2017) argued that the zero grade is not an accurate reflection of what the student has actually learned. Feldman (2020) illustrated the following scenario as evidence of how unfavorable giving zeroes on a 100-point scale can be for a student: The student has three

assignments in the grade book that average 85% but receives a zero on a fourth assignment. The zero grade has now reduced their overall average to 63% and dropped the grade by two levels. Attempts to raise the grade on future assignments by earning a minimum of 85 will only bring the grade up to a low C. This mathematical imbalance demonstrates how unequal grade distributions on the 100-point grading scale make the traditional grading system mathematically inaccurate. When using such a system, critics argue that it is impossible for a student to recover and increase their grade (Reeves et al., 2017).

Grading Homework

The act of grading homework is another traditional grading practice that has inspired discussion among researchers. There appears to be a common consensus among educators that improving a skill requires practice and this improvement is typically achieved through assigning homework (Reeves et al., 2017). In the United States, homework became a popular educational practice exercised by teachers in the 1950s to prevent students from falling behind academically (Major & Higgins, 2019). Support for assigning homework was bolstered by studies conducted in the U.S. that showed a positive correlation at the secondary level between homework completion and student achievement (Bempechat, 2019).

Ideally, homework allows teachers to provide students with immediate feedback on their performance with the goal of moving them forward in the learning process. Teachers may also use homework as a formative assessment that is not graded (O'Connor, 2018; Vatterott, 2011), yet Reeves et al. (2017) claimed that some teachers feel required to grade homework based on the idea that scoring it will somehow lead to

improved performance. Interestingly, teachers in the United States ranked highest among 50 other countries for using the practice of grading homework to calculate student grades (Vatterott, 2011). A primary reason teachers have given for grading homework includes the belief that students will not complete the homework unless they know they were held accountable for it through grading. This argument assumes that students were incentivized to complete the homework but also reinforces the idea that only what is graded is worth doing (Vatterott, 2011).

Pink (2013) and Dueck (2014) presented this viewpoint of homework as a form of bribery serving as temporary motivation that will not work with students who do not care about the possibility of earning a zero. Dueck also stated that grading homework puts students with unstable home environments at a disadvantage because of their inability to complete the work due to factors outside their control such as access to resources.

Although grading homework may be seen by teachers as a practice that prepares students for the future by instilling a positive work ethic or helping students who score poorly on assessments, this assumption seems to imply that effort is the gateway to making good grades through compliant behavior (Vatterott, 2011). Vatterott (2011) also asserted that grading homework based on completion is harmful to students because it enables students who may not know the content to receive a passing grade, thus misrepresenting their academic performance. Furthermore, past research data showed a negative correlation between student achievement and the frequency and amount of homework assigned. (Baker & LeTendre, 2005). These results suggested that grading homework does not guarantee improvement in student learning.

Another point of disagreement surrounding grading homework is the inclination

for students and teachers to view the homework grade as a reward for doing the work and not as feedback and practice designed to move their learning forward in preparation for assessment (Vatterott, 2011). Winger (2005) cautioned against the practice of including homework as a significant proportion of a student's grade because the grade will reflect a cumulative measurement based on effort rather than learning. Lowering grades as a response to tardy homework submissions also muddles the issue regarding learning performance. Students who submit late homework or fail to turn it in, even if they understand the content, may be punished with a lower grade than those in compliance (Dueck, 2014). More importantly, it is difficult to draw accurate conclusions about student knowledge and skills for assignments that are graded according to timeliness, and Winger (2005) stated that it is unfair to do so.

Grading Behavior

A third area of concern within traditional grading systems is the inclusion of student behavior. Inappropriate grade adjustment occurs when grades are given using criteria other than how a student performed. This finding was evident in a study of Swiss teachers conducted by Alm and Colnerud (2015), which found that similar student performance did not equate to similar grades because teachers adjusted grades using unrelated academic factors. McMillan (2001) referred to teachers who used grading practices to assign grades based on effort, improvement, and participation as “academic enablers” (p. 30). These practices include anything that supports but is not directly tied to student achievement. Other grading studies support that behavioral factors such as student engagement, work habits, effort, and attitude are included in the grading process (Bonner & Chen, 2009; Cizek et al., 1996; McMillan et al., 2002; Randall & Engelhard,

2010; Russell & Austin, 2010; Sun & Cheng, 2014; Willingham et al., 2002).

The Link to Behaviorism. These study findings appeared to exhibit teacher grading behaviors centered on behaviorism. Behaviorists believe that people can be trained to respond in a certain way using a system of rewards and punishments (Schunk, 2020). For example, grading practices based on a behaviorism-oriented philosophy might involve giving points to students to reward good behavior and reducing points for unruly behavior. The study findings suggested that some teachers tended to incorporate behavioral factors into grading, which has contributed to the impression that teacher grades lack reliability, are unmethodical, and are open to interpretation (Guskey & Brookhart, 2019).

Multiple articles have been written in recent years about the impact of implicit bias in schools due to the disproportionate racial ratio of teachers to students. Staats (2014) noted that although 80% of teachers are White, the majority of the population they serve are students of color. Behaviors may be construed in a variety of ways, making it difficult for teachers to clearly measure and weigh behavior. For example, White teachers may mistake some behaviors of African American/Black students as disrespectful or unruly because they come from a cultural background that recognizes such behavior as unacceptable (Feldman, 2019b). This difficulty may result in grading inaccuracies and may associate traits such as rowdiness with an inability to learn (Guskey & Brookhart, 2019). Such grading bias was found in studies by Farkas et al. (1990) and Duckworth and Seligman (2006), which uncovered prejudicial grading treatment toward lower-income Black and Hispanic male students and female students based on teacher perceptions about favorable behaviors. Although those studies did not report indications of overt teacher

bias, preconceived notions about groups of students may still lead to inequitable grading practices and an imbalance in student results (Bonner & Chen, 2019; Guskey & Brookhart, 2019). In the literature, the inclusion of noncognitive behavioral factors in grading has also been cited as detrimental to student motivation.

Student Motivation and Grading. Motivation theory has roots in 1960s and 1970s behavioral psychology and describes the use of rewards and punishments to encourage or discourage behavior and the driving force behind behavior (Earl, 2013). According to Stiggins (2001), motivation theory is heavily ingrained in how classrooms function and has been applied in schools to encourage good academic performance in the form of rewards and punishments handed out as grades. Motivation is a key component for learning to occur, but grades may not be effective motivation for all students (Earl, 2013).

Pink (2013) asserted that grades serve as a reward for students who do what is expected of them rather than a true measurement of learning. Consequently, students who do not receive good grades may lose the motivation to continue trying and give up their efforts (Pink, 2013). Psychologist Carol Dweck (2016) explained that how students approach their goals is also tied to motivation. According to Dweck, students intent on reaching goals are more interested in how they measure up to others (performance-oriented) rather than how well they learned the content and mastered the learning objectives (mastery-oriented). Researchers have established that teachers set learning environments that embrace either mastery or performance goals, which influence how students react when given learning tasks as well as how they view their ability to be academically successful (Anderman & Midgley, 1997; Roeser et al., 1996; Ryan et al.,

1996; Wolters, 2004).

Pink (2013) explained that students typically go to school with the singular goal of earning good grades. Unfortunately, students often resort to giving teachers what they believe will earn the desired grade. This practice may create an environment in which "good grades become a reward for compliance but don't have much to do with learning" (Pink, 2013, pp. 187-188). In addition, students who receive poor grades may begin to focus on failures and lose the desire to learn (Pink, 2013). Morrison (2003) suggested that grading is counterproductive to the mission of creating lifelong learners because it puts the focus on how well students perform in comparison with others and how they measure up as opposed to the learning that should be taking place. This idea was seconded by Hattie and Clarke (2019), who suggested that grades may harm learning because students tend to focus on comparing themselves to peers rather than on efforts to improve performance. Using grades in this manner may lead students to avoid challenging tasks that do not deliver the desired reward (Black & Wiliam, 1998; Feldman, 2019b).

Pink (2013) and Kohn (2018) agreed that using grades to issue rewards and punishments is not an appropriate way to promote learning and may lead to unplanned consequences. Guskey (2015) supported this conclusion by showing that students performed better when simply receiving teacher feedback on performance instead of a grade. Guskey (2015) and Zsaagstra (2012) noted that there appears to be a shared belief among many educators that creating grading policies that include penalties for turning in late or incomplete work will motivate students to take action. These beliefs persist despite evidence that punishing students does not motivate learning (Guskey, 2015; Reeves, 2012).

Dweck (2016) revealed the link between student motivation, learning orientation, and grades. Dweck theorized that students have a growth mindset when they believe they can grow and learn from making mistakes. Traditional grading practices are contradictory to the Dweck theory of growth mindset because they take away motivation derived from knowing that mistakes may be corrected and that not all assessments are counted as a grade (Feldman, 2020). Several grading experts have proposed equitable grading practices as a solution to eliminate common traditional grading practices and place the instructional focus squarely on student learning and content mastery (Feldman 2019a, 2019b, 2019d; Guskey & Brookhart, 2019; Guskey & Jung, 2016).

Drawing on Dweck's work, Schimmer (2016) recommended that teachers would be wise to engage in grading practices that nurture a growth mindset and boost student efficacy, yet Young (2021) warned that promoting a growth mindset sends a message to students of color that success is within their reach if they just try hard enough without acknowledging the role that systemic racism plays in maintaining inequitable educational systems. Young claimed that educators' time would be better spent disassembling the barriers that allow such inequities to exist.

The Equity Issue

It is not uncommon for people to transpose the terms equity and equality, yet they have very different meanings for students (Hanover Research, 2021). Quick and Kahlenberg (2019) asserted that 21st century schools have been preoccupied with ensuring equality by providing everyone with the same rights, opportunities, and resources rather than equitable opportunities for students. In terms of education, equity is achieved when all students have access to the resources needed to ensure their success.

Attaining educational equity requires that educators recognize that the amount of support needed for students to meet academic success will vary (Center for Public Education, 2016). The pursuit of educational equity requires intentionally identifying issues inhibiting student success and specifically addressing them (Arizona School Boards Association, 2021). This pursuit includes confronting grading practices that may be harmful to students.

Grading Equity

Ledlow (2022) cited the No Child Left Behind Act, signed by President Bush in 2002, as the impetus behind the intensive efforts by schools to eliminate the achievement gap between wealthy and economically disadvantaged students; however, Bowers (2009) observed that the reform efforts aimed toward getting rid of the achievement gap evident in standardized testing did not extend to grading. Many 21st century school systems continue to resist efforts to revise grading policies that do not reflect research-based practices. The persistent use of archaic grading practices that do not accurately measure student learning performance and instead focus on compliance may lead to teacher biases due to the mischaracterization of students based on personal traits. Such biases may create an "inequitable learning environment" (Ledlow, 2022, p. 4). Unfortunately, low-income and monitory students who are considered underserved may be at particular risk due to the increased likelihood they will experience school failures (Feldman, 2019b).

Feldman (2019b) believed that hodgepodge grading factors are inherent within the traditional grading system and considered them "inaccurate" (p. 6) and "inequitable" (p. 6). Feldman (2019b) argued that conventional grading threatens an "effective and equitable" (p. 28) learning process by discouraging students from taking academic risks

and eroding teacher-student trust, turning grades into “commodities” (p. 28), promoting bias and miscommunication of information, and decreasing motivation and taking power away from students. This point of view was also shared by Reeves et al. (2017), who stated that students may experience “stagnation of learning” (p. 43) within punitive grading systems. Alm and Colnerud (2015) stated that when students feel they have been unfairly assessed by a teacher, there is a potential for the relationship to be damaged and for the student to experience decreased confidence in teachers.

Impact of Traditional Grading Practices on Students

Much of the grading literature from recent decades emphasized the consequences that traditional grading practices may have on students. A 2019-2020 Stanford University survey of 54,000 high school students reported the following findings: 76% reported consistent worry about not performing well academically; 75% suffered from stress due to schoolwork; and 72% worried about taking tests (Challenge Success, 2019). Feldman (2020) also intimated that stress caused by grading anxiety interferes with student brain function and inhibits learning ability.

Additional findings suggested grading may have a long-term impact on future academic decisions. It is common for high schools to use a GPA to determine grade-level rankings because colleges require it for admittance (Guskey, 2014); however, schools may calculate the GPA in various ways depending on how class credits are weighted and which courses are included. This lack of regularity in how GPAs are calculated and students are ranked could have an effect on students’ postsecondary opportunities (Cohn et al., 2004). Klapp (2015) reasoned that lower-achieving students are at a greater risk of experiencing the negative impact of grading because they do not receive the benefits

given to higher-achieving students.

Winger (2005) asserted that traditional grading systems negate authentic student interest in course content because students are overly focused on performance. Winger (2005) illustrated this point when he recounted how a group of students described grading as a game in which they favored short-term retention of information in preparation for a test in pursuit of a good grade only to abandon the learning afterward. According to Winger (2005), when teachers unwittingly share the message, “Work hard and your grade will be fine“(p. 62), they may be unconsciously prioritizing compliance over learning. In the same vein, Goodwin and Rouleau (2020) felt that traditional grading practices treat learning as a terminal process whereby a grade is given at the conclusion of a unit to assess knowledge and skills without giving students the opportunity for reflection and relearning before proceeding to the next unit.

Grading Reform Efforts

When grades are focused solely on student achievement, their purpose and meaning is to clarify for their intended audience how well students have mastered learning objectives and standards (Schimmer, 2016). Erickson (2010) asserted it is the responsibility of educators to ensure clear and consistent grading practices that promote student success because ineffective grading practices may hurt students and create conditions conducive to failure. Feldman (2020) challenged educators to pursue grading equity by abandoning traditional grading practices in favor of alternatives. Several researchers have endorsed alternative approaches to traditional grading practices that could eliminate the inconsistencies that result from ambiguous interpretations and hodgepodge grading. These ideas include allowing students retakes/redos on learning

assessments, implementing a minimum grading scale, utilizing a standards-based grading system, and abandoning the use of letter grades to record learning.

Retakes/ReDos

A traditional grading system connects assessments to grading by providing a single opportunity for students to show what they know and recording their performance in the form of a grade (Feldman, 2019d). Earning lower grades initially makes it difficult to pull up a grading average, despite being able to successfully demonstrate learning at a future time. Allowing retake opportunities, whereby students can replace a lower score by retaking an assessment, allows room for error and learning (Feldman, 2020). Often referred to as a "redo," retake opportunities allow students to not only correct mistakes and recover learning but are a necessary part of the feedback process which may motivate students and promote a growth mindset (Campbell, 2012; Chappuis & Stiggins 2017; Earl, 2013; Feldman 2020; Guskey & Link, 2019a).

In the traditional grading framework, students who struggle with the content and score poorly on assessments will receive a final grade that reflects an initially deficient performance despite having demonstrated proficiency on future assignments. This grading practice may increase student pressure to do well on all assessments (Feldman, 2020) and reinforce the idea of grades as extrinsic motivators (Morrison, 2003). Kohn (2018) reasoned that students will choose not to take on learning challenges due to the fear of not earning the reward of receiving the desired grade; however, research has shown that when teachers communicate clear and specific feedback about skill deficits to students and allow them to improve their work, student learning improves (Campbell, 2012; Chappuis & Stiggins, 2017; Reeves, 2008).

Although summative grades serve as one type of feedback, they cannot present a fully descriptive picture for a student on their performance (Schimmer, 2016). The research on feedback proved that it is most effective when students receive specific information on how to successfully complete a task because it helps reinforce student thinking and the ability to identify the next steps in their learning (Hattie, 2012; Hattie & Timperley, 2007; Wiliam, 2017). Recent research studies implied that giving students a chance to retake assessments can significantly improve their learning. When students are given a second chance to take an assessment, it enables them to identify weaknesses so that they can target them as areas for learning growth. This concept is recognized as discrepancy reduction (Goodwin & Rouleau, 2020).

Positive research results and recommendations from grading experts have led some districts and schools to formally adopt redo policies, yet educators have pushed back. Some teachers feel that rather than motivating students to want to succeed, retakes reduce student motivation to do their best on assessments because they already know they will be given a second chance (Goodwin & Rouleau, 2020). Other complaints include concerns about additional teacher time and effort to grade retake assignments and the fear that retakes develop bad study habits and will not prepare students for college and career readiness (Guskey, 2020). Cutler (2019) warned that if teachers must adhere to a mandated retake policy, they must have clear guidelines and procedures regarding timelines for student work submissions. Guskey (2020) acknowledged the existence of teacher anxieties over allowing student retakes but insisted that if learning is truly a priority, educators should embrace retakes as “corrective instruction” (para. 5) to help students.

A Minimum Grading Scale

Supporters of grading equity such as Feldman (2019c), Reeves (2016), and Guskey (2015) believed that minimum grading scales may mitigate the damage caused by zeroes in the gradebook. Proponents of a minimum grading scale thought that using an authentic 100-point scale with equally distributed intervals would make it more logical for 50 to be the minimum threshold for an F (90-100=A, 80-89=B, 70-79=C 60-69=D, 50-59=F) and makes the grading scale mathematically accurate. Districts and schools that adopt a minimum grading policy set the lowest score at the bottom of the grading scale to balance the number intervals between letter grades. A minimum grading scale that sets 50 as the minimum score for an F grade creates a greater possibility for students to recover from an academic setback (Feldman, 2019b, 2020), yet critics have argued that it is not justifiable to give a student credit for work not completed and awarding undeserved points removes the motivation to do better.

A counterargument made by Docan (2006) is that giving zeroes could have the opposite effect because of a secondary negative impact on student self-confidence, self-efficacy, motivation, and belief about future performance. This claim favored reforming the traditional grading scale by using minimum grading policies as a possible solution to inequitable grading practices (Feldman, 2020); however, Alex (2022) shared that teachers expressed discontent about equitable grading practices like minimum grading scales being used to remove student accountability and make it “easier for students to pass” (p. 40).

Standards-Based Grading

Another educational reform practice gaining momentum in school districts is

standards-based grading. Schimmer (2016) described standards-based grading as a transformational shift in the traditional grading paradigm. This grading model replaces the time-honored notion of grades as rewards and allows teachers to discriminate between achievement and unrelated academic factors when assigning grades. The premise of standards-based grading is that grades should be separated into distinct components of mastery which reflect knowledge and skills gained as a result of learning (Winger, 2005, 2009).

Also known as "outcome-based education" (Schimmer, 2016, p. 7), standards-based grading replaces the overall grade composed of multiple unknown factors, with scores earned through evaluation of progress in accordance with clear performance standards (Marzano & Heflebower, 2011; Reeves et al., 2017; Winger, 2009). Instead of using a total point calculation, teachers design a scale including criterion descriptors that indicate mastery of the standards (Marzano, 2010). Table 2 is an example of a standards-based grading scale.

Table 2

Standards-Based Grading Scale

Grade	Level of mastery
A	Exceeded the standard
B	Met the standard
C	Student has key gaps in their understanding of the standard
D	Student is unable to demonstrate B or C levels without assistance
F	No evidence

Note. This table was taken from *Grading for Equity: What It Is, Why It Matters, and How It Can Transform Schools and Classrooms* by Joe Feldman, 2019b, p. 195.

This information demonstrates how teachers could use a standards-based scale to

characterize how students met levels of mastery based on competence. Feldman (2019b) claimed that when teachers implement standards-based grading, they change how they view the purpose of assessment and articulate student performance in terms evidenced by understanding the standard. Grading in such a way ensures that grades are meaningful and reflect the validity and reliability often missing from traditional grading practices (Muñoz & Guskey, 2015).

If grades are supposed to tie student achievement to clear learning targets, there must be transparency to establish fairness and equity for students (Kovas, 1993; Muñoz & Guskey, 2015). Some educators have solved this problem by awarding grades for various pieces of learning documentation. The three Ps (product, process, and progress) allow teachers to differentiate between learning criteria and are the basis for standards-based grading (Muñoz & Guskey, 2015). Muñoz and Guskey (2015), Guskey (1996), and Guskey and Link (2019b) described the 3 Ps:

Product. Product criteria focus on what students can do during a fixed period. This criterion is comprised of summative assessments such as final exams and projects. The product criteria may be viewed as evidence of student achievement.

Process. This criterion considers student behaviors or efforts that students make toward learning. The inclusion of grades for homework, participation, formative assessments, and attendance are examples of process criteria.

Progress. Student growth toward learning goals is considered progress criteria. Teachers use progress criteria to examine the rate of student improvement over a specified period of time.

Reporting Criteria. Once teachers have gauged how they will determine product,

process, and progress criteria, the next step is to assign a grade to represent the indicator. Establishing detailed distinctions between reporting criteria prevents teachers from the hodgepodge mixture of factors in the traditional grading framework (Muñoz & Guskey (2015). For example, the product criteria may be reported in the form of a letter grade, but other factors such as homework completion and participation could be designated using a numerical ranking such as 4=consistent performs, 3=usually performs, 2=sometimes performs, and 1=rarely performs (Muñoz & Guskey, 2015). In 2011, Kentucky became one of the first states to initiate a standards-based report card utilizing separate criteria to report student progress to bridge a divide between the curriculum and assessment and clearly communicate academic performance to students and parents (Guskey et al., 2011).

Despite the benefits of objective standards-based grading touted by reformers, Stitt and Pula (2014) argued that using subjective grading practices can motivate students to do better and place teachers in a better position to show empathy for students. They defended using subjective grading criteria because they believed that using subjective behavioral factors such as effort, participation, and attitude helps offset lower student grades. This line of reasoning was based on the assertion that subjective factors are connected to human emotions and can be used in conjunction with objective standards to drive student performance. Although the goal of using developing objective grading criteria was to remove bias from the grading equation, Stitt and Pula believed that the intention to prevent bias does not guarantee bias-free grading practices and that inclusion of objective and subjective grading factors could serve as a form of "check and balance" (p. 25). Stitt and Pula agreed with Winger (2005) that students should be given grades in

distinct categories such as participation, completion of work, and preparation to prepare them for the reality of adulthood and the world of work. Stitt and Pula recommended subjective grading criteria serve as minor supplements to objective performance measures. They contended that utilizing these subjective measures could be the saving grace for students on the verge of failing due to performance on objective assessments due to circumstances beyond their control. They also challenged the notion of relying solely on objective grading standards to communicate student performance to families. By expanding grading criteria to include subjective factors, Stitt and Pula explained that teachers can present parents with an even more authentic picture of the entire spectrum of student achievement, but Reeves (2016) and Schimmer (2016) both acknowledged that grading variations among teachers could still occur within a standards-based grading system due to the control still available at the local level among individual schools and teachers.

Districts that have pushed forward too quickly with standards-based grading have dealt with frustration and confusion from teachers, parents, and students (Reeves et al., 2017). This implied the need for professional development training for teachers and direct communication with students and parents about grading and assessment changes. Marzano and Heflebower (2011) recognized there is no one foolproof method for using a standards-based system; however, using such methods does provide a more clear-cut explanation of student performance and exposes the inherent problems within the traditional grading system (Reeves et al., 2017).

Going Gradeless

The grading literature indicated that some educators are questioning the tenets of

traditional grading practices and making the choice to dissociate with assessments that rely on assigning grades. This movement became known as “going gradeless” or “ungrading” and grew popular among teachers who wanted to embrace “holistic” assessment (Blum et al., 2020; Gonser, 2020, para. 1). The high stakes tied to grading, lack of student motivation, and time consumed by grading were some of the reasons teachers turned to using portfolios and project-based assessments to measure student performance (Gonser, 2020).

Just as instituting a standards-based grading system may spark dissatisfaction among students and parents, Plotinsky (2022) shared that going gradeless may lead to resistance from teachers and administrators accustomed to using grades to hold students accountable. Cizek et al. (1996) and Guskey (2015) inferred that this opposition made sense because historically, school administrators have ignored efforts to address grading out of loyalty to tradition or reluctance to deal with the challenges associated with making changes. Although high school and university teachers have railed against not giving grades because students will not complete the work or see a reason to participate in class without them, Blum et al. (2020) stated that these very reasons provide justification for why grades are not effective. Moreover, Schultz-Bergin (2020) alleged that although grades may compel students to do the work, they do not guarantee that learning has occurred.

Quinn (2013) reminded educators that grades do not have to be represented by symbols and that written descriptions in the form of rubrics with detailed indicators can convey learning results. Going gradeless could cover a spectrum of teacher actions, from reducing the number of assignments submitted for evaluation to establishing an entirely

new system for assessing student work (Gonser, 2020; Blum et al., 2020). One of the main benefits mentioned in the literature for the gradeless movement is putting the focus where it should belong: on student learning. Engaging in non-grading may not provide teachers with a solution to shortening the time spent grading, but it could increase learning and strengthen teacher-student relationships (Blum et al., 2020). Gonser (2020), Hunt (2019), and Plotinsky (2022) also mentioned that going gradeless may help teachers dive more deeply into how they teach content to students and motivate students through choice and individualized instruction.

The Rationale for Change

Grading experts such as Reeves et al. (2017) advocated for a grading system that will eliminate extraneous grading factors; however, Feldman (2019b, 2020) felt that more should be done to account for inequitable grading practices that historically exist in K-12 schools, particularly for students with a history of being underserved, but tackling the issues surrounding grading will require tenacity, strong leadership, and a commitment to ending hurtful grading practices (Erickson, 2010). Meanwhile, the push to act and bring the traditional grading system into the 21st century is getting more attention. Since 2018, 16 state legislatures and school boards in various states approved policy changes to prompt schools to examine overhauling the current grading system (Gonser, 2020). Ultimately, changing the traditional grading system would force educators to stop addressing the symptoms and critically examine the root of the problems that result from a performance-oriented culture promoted by traditional grading (Morrison, 2003).

Theoretical Framework

I used the teacher grading decision-making theoretical framework for this study.

The original framework was based on the work of McMillan and Nash (2000) and was later adapted by Kunnath (2016). McMillan and Nash conducted a research study with elementary and secondary classroom teachers and prepared a model to describe how teachers arrive at specific grading decisions and apply grading behaviors when assessing student work. Using data from their qualitative study, they pinpointed six themes within their model: "1. teacher beliefs and values, 2. classroom realities, 3. external factors, 4. teacher decision-making rationale, 5. assessment practices, and 6. grading practices" (McMillan & Nash, 2000, p. 9). The crux of the teacher decision-making model centered on the conflict between what teachers value and believe, conditions within their classrooms, and other unavoidable impositions (McMillan & Nash, 2000). Study results led McMillan and Nash to conclude that teacher grading decisions were impacted by their unique philosophies and personal belief systems. According to McMillan and Nash, these findings explained the difference in how teachers rationalized their choices when evaluating assessments and assigning student grades. They also discovered that teachers tended to exercise objective grading practices when they were compelled to do so by pressure from district or state mandates. McMillan and Nash asserted that the tension felt by teachers increased in conjunction with extrinsic stressors, but this tension was lessened by greater professional practice.

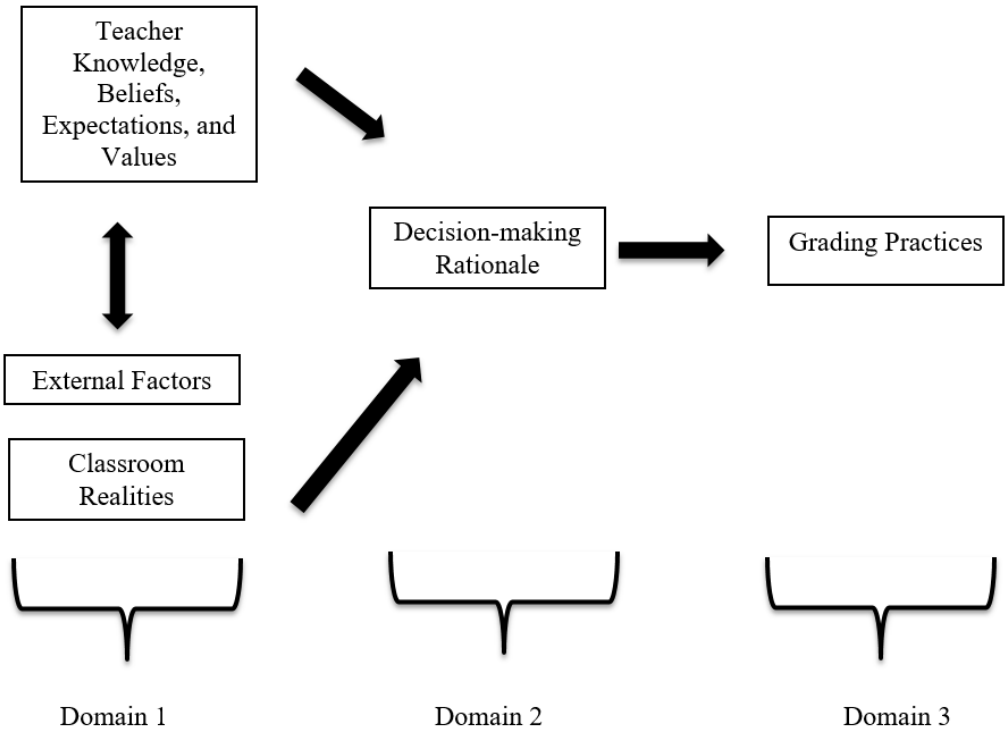
Kunnath (2016) built on the McMillan and Nash (2000) model when he completed a study on teacher grading decisions in relation to school poverty. He divided the model into three domains based on the themes determined by McMillan and Nash. Kunnath (2016) added to their body of work and constructed a modified decision-making framework while researching the impact of school poverty on the teacher grading

decision-making process. I used the updated Kunnath (2016) version for this research study.

Figure 1 is an illustration of the Kunnath (2016) teacher grading decision-making framework.

Figure 1

Teacher Decision-Making Framework



Note. This figure was reproduced using the model from "Teacher Grading Decisions; Influences, Rationale, and Practices" by J. Kunnath, 2017, *American Secondary Education*, *45*(3), p. 71.

Figure 1 depicts the network of decision-making mechanisms in the model originally created by McMillan and Nash (2000) and modified by Kunnath (2016). The newer model was developed to demonstrate the framework of the intricate teacher

decision-making process for grading by grouping the themes into domains for a more concise study and analysis (Kunnath, 2016).

The arrows in the figure depict the connection between the elements in the framework. The McMillan and Nash (2000) study explained how teacher beliefs and values, external factors, and classroom realities impact decision-making, which in turn affects how they assess and grade students. The bi-directional arrow between teacher beliefs and values and external factors represents the "tension" felt by teachers when forced to confront the struggle between what they believe and external forces with which they must comply.

Domain 1

Domain 1 includes the various cognitive mechanisms teachers may apply when making classroom decisions: knowledge, beliefs, expectations, and values. McMillan (2003) added the terms knowledge and expectations to teacher beliefs and values when he published a subsequent article and interpreted the research used to devise the original decision-making model. He pinpointed the following themes within this category: "pulling for students, philosophy, promoting understanding, accommodating individual differences, and motivation" (McMillan, 2003, p. 36). McMillan and Nash (2000) reported that teachers were driven by the need to pull for students to ensure success. This compulsion could lead teachers to revise assessments and modify their grading behaviors to give students the opportunity to be successful, especially when taking such actions could improve a low grade (McMillan, 2003). They also noted that teachers relied on their educational philosophy to explain their assessment decisions. When asked to describe the reasoning behind their decisions, teachers made references to their overall

philosophies, values, and beliefs about education (McMillan, 2003). Teacher comments indicated that educational philosophy was a significant consideration for assessment decision-making. McMillan (2003) maintained that teachers were concerned with ensuring that students demonstrated a “deep understanding of learning content” (p. 36) and were willing to consider differentiating assessments based on their beliefs about how individual students learn. Notably, McMillan (2003) declared that the most compelling and persistent theme within this category was motivation. Teacher comments reflected the implementation of assessment and grading behaviors designed to boost student learning engagement and motivation. These actions were based on the belief that motivation is essential to student performance (McMillan, 2003).

Classroom realities are aspects of the classroom environment that teachers cannot control or avoid. These realities could include chronic student absences, unstable home environments, disruptive behavior, negative student attitudes, varying degrees of student academic abilities, and inclusion of special education students (McMillan, 2001, 2003). Teachers in the McMillan and Nash (2000) study shared frustration over their inability to control these factors and expressed the need to change their grading practices in response to the conflict felt between their beliefs and reality.

In addition to classroom realities, other external factors exist that teachers cannot control but may impact how they assess and grade student work (McMillan, 2001, 2003). McMillan and Nash (2000) found that high-stakes state standardized testing affected how teachers assess students. The pressure to adjust classroom assessments to prepare students to meet performance standards on state tests may be contradictory to teacher beliefs and values. Similarly, school or district policies may also be inconsistent with what teachers

believe about grading and assessment; however, the McMillan and Nash study results surmised that district policies had the least amount of influence on teachers and were sometimes ignored or only generally followed.

Domain 2

The second domain in the model is decision-making rationale. Remarkably, the most significant finding from the McMillan and Nash (2000) study was that teachers found it difficult to articulate a specific rationale for how they evaluate and grade students. They were at a loss of identifying definitive explanations for their grading practices, tended to rely on a combination of factors (Brookhart, 1991; Cizek et al., 1996; McMillan, 2001) and primarily based their decisions on on-the-job experience (Cizek et al., 1996). These teacher experiences seemed to be a result of personal encounters or practices adopted from interaction with colleagues (McMillan & Nash, 2000). When making decisions about the content and weight of what to include in the grading process, teachers tended to lean on their beliefs and values and respond to external pressures (McMillan, 2003).

Domain 3

The third domain of the theoretical teacher decision-making model is grading practices. Kunnath (2016) inserted grading practices as Domain 3 in his research study. In the McMillan and Nash (2000) model, decision-making rationale spurs teachers to exercise assessment practices and grading behaviors. Although McMillan (2003) discussed how assessment and grading practices are also a result of the teacher decision-making process in a follow-up article, grading practices were not specifically included in the original model. Kunnath (2017) explained that the 2003 McMillan article

incorporated a thorough discussion of grading practices and made the decision to revise the framework for his study because it was justifiably relevant to include it in the model. McMillan and Nash remarked that teachers considered effort and used extra credit to raise grades for students on the academic borderline. They concluded these sentiments indicated a belief system that values student success. McMillan and Nash also found differences among teachers in how they assigned zeroes and alluded to the idea that consideration was given to how a zero would influence student learning motivation (McMillan, 2003).

Three Pillars of Equitable Grading

Feldman (2019b) coined the terms the three pillars to explain the concept of equitable grading and describe a “vision” contrary to traditional grading behaviors. This vision encompasses the following elements: accurate, bias-resistant, and motivational. Table 3 summarizes the fundamental ideas underlying each pillar.

Table 3

Three Grading Pillars

Pillar	Grading principles	Grading practices
Accurate	• Sensible math • Performance based	• No assigning zeroes • Minimum grading • 0-4 scale • Greater weight given to recent academic performance • Grades are considered on student and not group achievement
Bias-resistant	• Based on evidence • No external factors • Objectivity	• Grades only include required work, not bonus credit • Grades based on work produced, not when it was turned in • Consequences for cheating do not include decreasing grades (continued) • Participation and effort are excluded as factors • Grades only include summative assessments, formative assessments such as homework are not included
Motivational	• Focus on student success • Results in learning growth • Embraces mistakes	• Minimum grading • 0-4 scale • Allowing retakes • Rubrics • Standards-based grading • Encourage self-regulation • Cultivate a feedback culture • Students track progress • Relabeling grades

Note. The information for this table was taken from *Grading for equity: What it is, why it matters, and how it can transform schools and classrooms* by Joe Feldman, 2019b, p.72.

Table 3 summarizes the three pillars of equitable grading. Feldman (2019b) stressed that he did not place the three grading pillars in formation based on their level of importance. Furthermore, the grading practices within each pillar were not intended to be carried out in any specified order. There are layers of overlap apparent across the pillars, which include grading accuracy, bias resistance, and motivation. He felt that classifying

them into three distinct groups would more effectively integrate grading theory and practice. The three-pillar grading equity framework was intended to demonstrate how equitable cohesiveness may be created within a broader educational system that embraces nurturing success for all students (Feldman, 2019a, 2019b, 2019d).

Pillar 1: Accuracy

The first pillar described by Feldman (2019b) focuses on mathematical accuracy. He stated that mathematical calculations used for grading should be simple, make mathematical sense, and accurately describe a student's performance. The idea that the most effective way to assess academic performance is through clear-cut mathematical calculations is a remnant of the Industrial Era when precision was equated to efficiency (Feldman, 2019b). He used the work of Guskey and Jung (2016) to reinforce teacher reliance on mathematical formulas built into grading software to make objective grading judgments and urged educators to rely on professional expertise to consider a more comprehensive picture of student performance, rather than a program to assign a grade.

Pillar 2: Bias-Resistance

Pillar 2 represents an emphasis on grading remaining a bias-free activity. According to Feldman (2019b), teachers may make unconscious judgments that result in different outcomes for students based on factors including race, gender, and economics. Resistance to bias means that grading is limited to what students know and can do. Grades should be objectively calculated based solely on evidence of student performance. Any biases that teachers may have toward students due to external factors are excluded. Grading that is bias-resistant does not allow personal interpretations of student behavior or other criteria to enter the grading process and keeps attention on student knowledge

(Feldman, 2019a, 2019b, 2019d).

Pillar 3: Motivation

The third pillar concentrates on the role grading plays in student motivation. Feldman (2019b) recognized the priority teachers should place on using motivation to keep students engaged in the classroom and asserted that a more effective understanding of motivation could result in more equitable grading practices. Research reported by Guskey and Bailey (2001) and Marzano (2000) suggested that students receiving good grades view that as a positive acknowledgment of their accomplishments; however, grading used as an external reward system becomes problematic for students who are performing poorly and may withdraw from the learning process (Guskey, 2008).

Pillar 3 is supported by Feldman's (2109c) notion that grading should serve as motivation to help students be successful, encourage a growth mindset, and help them improve learning. Students should view grades as a clear indicator of their performance. Grades are used as one form of feedback given to students to help them grow as learners, and mistakes are accepted as a part of the learning process (Feldman, 2019b).

I analyzed teacher grading through the theoretical lens of a decision-making process within Feldman's (2019c) equitable grading framework. This study explored how teachers develop their grading practices and the application of these behaviors through an equitable grading lens.

Study Application

Wilen et al. (2004) stated that teachers engage in decision-making to guide their instruction, and McMillan (2003) indicated that teachers also engage in a decision-making process when executing formative and summative assessment decisions.

McMillan (2001) stressed the need to better account for how teachers make grading decisions and the rationale and factors used to assign grades. I studied teacher grading behaviors through a theoretical decision-making framework and an equitable grading framework.

The teacher assessment and grading practices decision-making framework provided a lens through which I explored how teachers view and apply grading behaviors. This framework allowed me to examine the multi-layered thought process that exists within the three domains to better understand how teachers make decisions about grading. I used study results to better understand how teachers perceive and engage in grading behaviors and how these behaviors evolve. The Feldman (2019b) conceptual framework was used to further investigate teacher grading practices through an equitable grading perspective. I compared the study data using the tenets outlined within the three pillars of equitable grading.

Conclusion

This review of the literature explained the establishment of the traditional grading system, exposed potential problems associated with traditional grading practices, and presented reform solutions that may make grading more meaningful. The main themes shared by researchers in the literature regarding best grading practices were (a) grades should be based on standards and achievement to reflect reliability and validity, (b) the focus for grading should be on providing students with effective feedback, and (c) there are available practices and alternate grading options that may allow teachers to evaluate student learning more accurately; however, there remain several aspects of teacher grading practices that need to be studied. In the upcoming chapter, I share the research

methodology and methods I used to probe teacher grading practices and address the research questions.

Chapter 3: Methodology

The use of letter grades continues to be the yardstick by which students are measured for everything from college admission to inclusion in advanced academic programs. A literature review showed that much remains unclear about how much grading reflects student performance. Past grading research demonstrated that grades assigned by teachers were a significant indicator of the successful matriculation of students through high school and future college attendance (Atkinson & Geiser, 2009; Bowers et al., 2012), yet according to Winger (2005), when teachers fail to clearly connect grades to learning, they miss opportunities to provide insightful feedback on student strengths and weaknesses. This incongruence communicates false information to students and their parents because their actual performance does not equate with the marks on the report card. Accurate measurement of achievement and grading equity requires the exclusion of nonacademic factors in the grading process.

Despite this fact, multiple grading researchers included evidence in the literature that shows grades are an amalgamation of criteria and are seldom calculated using academic achievement as the singular convention considered by teachers (Feldman, 2019b; Guskey & Bailey, 2001; Guskey & Brookhart, 2019; Marzano, 2000; Quinn, 2013; Randall & Engelhard, 2010; Reeves, 2016; Schimmer, 2016; Sun & Cheng, 2014). There appears to be a lack of grading validity and reliability due to the tendency for teachers to grade using personal perspectives and experiences in lieu of measurement theory guidelines (Alm & Colnerud, 2015). Although many districts espouse equity, the mathematical computations and other grading practices involved in traditional grading scales appear to be inherently inequitable (Feldman, 2019b; 2020).

Chapter 3 provides a detailed outline of the study methodology and procedures. The following information was included in this chapter: purpose of the study, participants, research design, study instrumentation, data collection method, process for data analysis, and study limitations and delimitations. The chapter concludes with a summary of the information presented.

Purpose

Student grades are elemental to K-12 education and are considered an intrinsic teacher practice, but grading experts agreed that they often do not perform the fundamental purpose of communicating student learning (Cizek et al., 1996; Guskey, 2015; Guskey & Link, 2019b; McMillan, 2001; Stiggins et al., 1989; Sun & Cheng, 2015). Rather than focusing solely on student achievement, researchers discovered that student grades may be derived using a variety of factors that include achievement and nonacademic elements such as ability, effort, attitude, and behavior (Cross & Frary, 1999; McMillan, 2003; Nowruzi, 2021; Randall & Engelhard, 2010). McMillan and Nash (2000) attempted to demystify the process teachers use to grade students by probing how teachers apply their experiences, beliefs, external factors, and classroom realities to grading practices. They explained that the struggle to balance these different spheres of influence is what creates teacher grading variability.

Teachers are responsible for assigning accurate grades, and inconsistency in teacher grading practices has the potential to impact the opportunities available to students (DeLuca et al., 2019; Isnawati & Saukah, 2017). The purpose of this research study was to explore secondary (Grades 9-12) teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading

practices with equitable grading principles. Understanding how teachers engage in the grading decision-making process may help districts, school administrators, and teachers implement policies and practices that ensure the grades students receive are a fair and accurate representation of student learning.

Setting

The research site for this study was a school district in the Midlands region of South Carolina (District X). According to the South Carolina Department of Education data, the school district is one of the largest in the state and draws from a diverse population consisting of 60% African American, 21% White, 11% Hispanic, 3% Asian, and 5% additional ethnicities. The students within the district represent 68 native languages and 70 international countries/territories. The district is comprised of 20 elementary schools, four elementary magnet centers, one child development center, seven middle schools, five high schools, one virtual school program, one adult education center, and one student innovation center. The research study focused on the high schools in the district.

Grading researchers have implied that traditional grading practices may play a role in perpetuating student inequities (Guskey & Link, 2019b). District X recently released a set of K-12 grading expectations for teachers to follow. This recent implementation made the district an ideal site for the study.

Participants

I recruited teachers from the six comprehensive high schools in District X. The target population was approximately 400 teachers. This number was derived from the number of teachers at each high school using data reported to the South Carolina

Department of Education. Prior to participating in the study, participants were notified through the informed consent documents that they must be ninth- through 12th-grade teachers working in the identified school district. I was hoping to receive 100 to 150 survey responses from that total number for an average response rate of 20% to 30%. According to Jotform (2023), survey response rates may range between 5% and 30%, and I achieved a survey response rate of 15%.

The target population for this study was certified teachers from each high school who taught one or more courses requiring them to assign grades and adhere to the K-12 district grading expectations. Secondary teachers at the high school level were specifically chosen as participants because of the impact of course passage on student promotion and high school graduation. Grades are one of the main criteria used to determine high school graduation (Rumberger, 2011), and students in this state must receive passing grades to receive the required number of course credits and meet graduation requirements (South Carolina Department of Education, 2023a). In addition to completing course requirements for graduation, many decisions schools make about students are determined using grades. Examples include how courses are assigned, scholastic awards, ability to participate in activities, grade-level promotion or retention, field trip participation, academic support through tutoring or remediation, scholarships, and college admission (Feldman, 2019b).

Research Questions

This study addressed the following research questions:

1. How do teachers perceive their grading practices?
2. What factors do teachers report that they consider when assigning student

grades?

3. How do teachers describe the evolution of their grading practices?
4. How do the grading practices reported by teachers align with the three pillars of equitable grading?

These questions are aligned with the McMillan and Nash (2000) teacher grading decision-making model adapted by Kunnath (2016, 2017) and the three pillars of equitable grading conceptual framework created by Feldman (2019b). Table 4 represents the alignment of the research questions with both frameworks.

Table 4

Alignment of Research Questions With Theoretical and Conceptual Framework

Research question	Framework
1. How do teachers perceive their grading practices?	Teacher Grading Decision-Making Domain 2
2. What factors do teachers report that they consider when assigning student grades?	Teacher Grading Decision-Making Domain 3
3. How do teachers describe the evolution of their grading practices?	Teacher Grading Decision-Making Domain 1
4. How do the grading practices reported by teachers align with the three pillars of equitable grading?	Three Pillars of Equitable Grading Framework: Accurate, Bias-Resistant, Motivational Pillar 1: Grading calculations accurately describe student academic performance. Pillar 2: Grades are based on content knowledge, not subjective measures that may invite bias. Pillar 3: Grading practices motivate students to persist in reaching for academic success by promoting a growth mindset.

The first research question in Table 4 addressed Domain 2 in the teacher grading

decision-making framework. The data from the study were used to determine the reasoning teachers employ when they engage in grading student work. This question helped uncover how teachers justify decisions regarding what they consider and include in the grading process. The second research question examined specific grading practices within Domain 3 to discover what factors teachers self-report that they use when grading student work. Both academic and nonacademic factors included in the grading process were explored. Research Question 3 utilized Domain 1 to analyze the influences that have impacted the development of teacher grading practices and informed grading beliefs. The equitable grading conceptual framework was used to analyze teacher grading practices associated with Domain 3 of the decision-making framework. I evaluated the teacher grading practices described in the study to see how they aligned with the pillars of grading equity as they relate to accuracy, bias, and motivation. These four research questions guided the analysis of data collected through the study. Study results were considered through the lens of a teacher grading decision-making and equitable grading framework.

Research Design

Mixed methods research is defined as the collection, analysis, interpretation, and reporting of quantitative and qualitative data in one study (Creswell & Plano Clark, 2017; Kajamaa et al., 2020; Plano Clark & Ivankova, 2016). Alternative terms sometimes used to refer to mixed methods research include “integrating, synthesis, quantitative and qualitative methods, multimethod, mixed research, or mixed methodology” (Creswell & Creswell, 2018, p. 215), but the current term accepted by research experts is mixed methods.

Campbell and Fiske (1959) were credited with initiating the mixed methods research movement when they began using various quantitative methods to collect data to study psychological traits (Sieber, 1973). Subsequently, this research technique encouraged others to begin mixing multiple study instruments to gather data. It was this combination of using distinctively qualitative research instruments such as observations and interviews in conjunction with quantitative surveys that resulted in a mixed design approach. By the beginning of the 1990s, the practice of triangulating data by combining quantitative and qualitative sources together materialized in the form of mixed methods research designs (Creswell & Creswell, 2018).

A mixed methods approach involving a quantitative and qualitative design was utilized for this study. I focused primarily on qualitative methods but also used measurable quantitative data. A QUAL + quan designation was used to signify the primacy placed on the qualitative study components. Capitalization is a form of notation to emphasize the importance placed on qualitative data and the + indicates that both types of data were collected simultaneously (Morse, 1991; Plano Clark, 2005; Tashakkori & Teddlie, 1998). More information on the research design is included in the following sections.

Rationale for Research Design

Creswell and Creswell (2018) asserted that one of the main advantages of using mixed methods is the ability for researchers to lessen the impact of "bias and weaknesses" (p. 14) inherent within each research method. Schoonenboom and Johnson (2017) pointed out that researchers increase the possibility of achieving stronger study validity by using both quantitative and qualitative data to support their conclusions. It has

also been suggested that using mixed methods may be more beneficial than using a single research design because the combination of quantitative and qualitative data offers greater insight into the research problem (Dawadi et al., 2021; George, 2021). Data triangulation within a mixed methods study allows the researcher to achieve greater validity by using results from one method to reinforce findings from the other (Bergman, 2010). By applying a mixed methods research design, I expanded the scope of the inquiry and viewed the study through different contexts.

Pragmatic Worldview

Selecting a research method involves considering the philosophical worldview that expresses the broader abstract ideas conveyed in the research (Creswell & Creswell, 2018). I adopted a pragmatic worldview for this study because the research was problem-centered and "real-world practice oriented" (Creswell & Creswell, 2018, p. 6). Cherryholmes (1992) and Morgan (2007) established the link between the pragmatic paradigm and mixed methods research by explaining that just as pragmatists do not draw on a single philosophy or reality, mixed methods researchers do not rely on either quantitative or qualitative suppositions when they conduct research. The pragmatist uses many techniques to learn about a research problem. A pragmatic worldview is applicable to this study because I used a quantitative and qualitative approach for collecting different forms of data to better understand teacher grading behaviors in relation to grading equity.

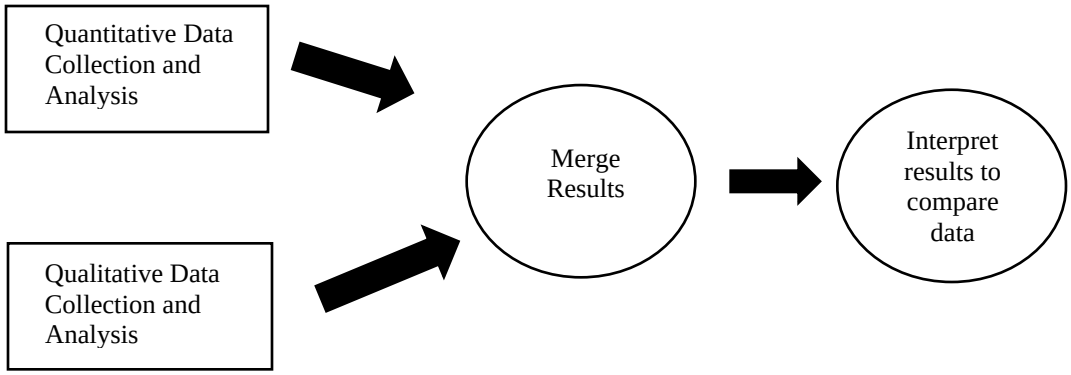
Convergent Mixed Methods Research Design

Convergent mixed methods design involves the consolidation of quantitative and qualitative research data with the intention of conducting a thorough problem analysis

(Campbell & Fiske, 1959; Creswell & Creswell, 2018). This methodology requires the researcher to collect both kinds of data around the same time and then use that integrated collection of data to explain the research results. In accordance with the convergent mixed methods design, I explained any findings that may have conflicted or disagreed with the study framework. The convergent mixed methods design I used for this study is illustrated in Figure 2.

Figure 2

Convergent Mixed Methods Design



Note. This figure was reproduced from the text *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* by Creswell and Creswell, 2018, p. 218.

As shown in Figure 2, the convergent mixed methods design involves a single process of compiling quantitative and qualitative data, examining each set of data separately, and then comparing results to determine if findings can be substantiated or support similar conclusions (Creswell & Creswell, 2018). I selected the convergent mixed methods design specifically because the quantitative and qualitative data in this study do not inform one another. I used quantitative and qualitative methods to answer Research Questions 1, 2, and 4, but the data were collected independently, and I

assembled both sets of data within the same period. Qualitative data collection was the priority for answering Research Question 3 because I was seeking to understand grading behavior based on research participants' personal perspectives and professional experiences. I collected quantitative data for Research Questions 1, 2, and 4 to yield numerical results that described teacher perceptions about grading and explicit factors teachers consider when grading student work. Quantitative and qualitative data were analyzed, and I triangulated the data during the final stage of research analysis to answer the four research questions. Table 5 outlines the criteria for executing a mixed methods study design.

Table 5

Four Criteria for Mixed Methods Design

Criteria	Question for consideration
1. Level of interaction between the quantitative and qualitative data	To what extent does each data set inform the other?
2. Order of data collection	What is the timeline for collecting data?
3. Priority of the data	Which data will have priority for answering the research questions?
4. Timing for integrating the data	When will the quantitative and qualitative data be combined?

Table 5 details the criteria I considered for carrying out a mixed methods study design. Creswell and Plano Clark (2017) described the four criteria a researcher must consider when implementing a mixed methods design. The first criterion refers to whether data may be collected independently or if one set of data must be collected before the next stage of collection may begin. Secondly, the researcher must determine the timing of data collection and if the data were collected concurrently or sequentially.

The third criterion involves the level of importance placed on each type of data collected. Prioritizing the data is dependent on the type of study being conducted. Finally, the researcher must decide when the mixing of the quantitative and qualitative research components will occur in the study. It is possible for integration to occur during any stage of the research process (Halcomb, 2019). These descriptions were used to help in determining procedures for gathering and analyzing the study data.

Research Procedures

The steps involved in research procedures include the researcher identifying the methods for collecting data and specifying instruments that were used for data collection (Creswell & Creswell, 2018). Table 6 shows the alignment of research questions with study instruments and data collection methods.

Table 6

Research Questions, Instruments, and Data Collection Methods

Research questions	Instruments	Data collection
How do teachers perceive their grading practices?	Survey Part I Section 1, 2, 6	Quantitative
	Survey Part II	
	Teacher interviews	Qualitative
	Question 1: What do you believe is the purpose(s) for assigning student grades?	
	Question 2: Describe the relationship between assigned grades and student learning.	
What factors do teachers report that they consider when assigning student grades?	Survey Part I Sections 3-5	Quantitative
	Survey Part II	
	Teacher interviews	Qualitative
	Question 3: How do you feel about students redoing assignments or retaking assessments to improve their grades? How do you feel about grading homework? How do you feel about grading formative assessments? How do you feel about taking away points for late work? How do you feel about awarding extra credit or bonus points on assignments? Do you believe in including compliance with classroom rules in the grading process? For example, taking away or awarding points based on how a student behaves in your class. How do you feel about students receiving a minimum grade cut score on their report cards?	

(continued)

Research questions	Instruments	Data collection
	Question 4: What policies do you follow when you assign grades? How would you describe your grading practices in relation to school and district guidelines?	
How do teachers describe the evolution of their grading practices?	Teacher interviews	Qualitative
	Question 5: How did you acquire the practices you use to grade student work?	
	Question 6: How have your grading practices changed since you began your teaching career?	
How do the grading practices reported by teachers align with the three pillars of equitable grading?	Survey Part I Sections 3-5	Quantitative
	Survey Part II	
	Teacher interviews	Qualitative
	Question 7: How would you describe your reaction to the grading expectations created by the district?	
	Question 8: Describe your understanding of this statement: Grading should be an assessment of student learning: a consistent and equitable process across our district. What is your reaction to this statement?	
	Question 9: Describe your understanding of this statement: Grades should not be a punitive discipline tool nor merely a function of student participation and effort. What is your reaction to that statement?	
	Question 10: Describe your understanding of this	(continued)

Research questions	Instruments	Data collection
	statement: Grading is one of many forms of feedback to assess student growth and is a dynamic and fluid component of learning. What is your reaction to that statement?	
	District K-12 Grading Expectations Document	Qualitative

Qualitative Data

In qualitative research studies, it is typical for the researcher to collect data through document review and conducting observations and interviews (Creswell & Poth, 2018). One-on-one interviews are the most effective for accumulating sensitive information that may include personal histories and experiences. This research method is used to generate data in the form of notes, recordings, and/or transcripts (Mack et al., 2005).

The primary qualitative instrument I used for this research study was individual interviews with high school teachers. Interviews can be an effective way to obtain information from participants who are directly involved in the research topic and dive deeply into their experiences and knowledge (DeJonckheere & Vaughn, 2019). Qualitative interviews may be conducted face-to-face, virtually, or by telephone. They involve asking participants a small number of broad questions that prompt them to share their viewpoints and thoughts. Interviews allow researchers to gather data that cannot be obtained through direct observation and collect historical material from participants, and give the researcher control over the questions being asked (Creswell & Creswell, 2018). I determined that this method was the most appropriate for gathering information for soliciting highly personal and subjective responses because participants would be more

comfortable sharing information about grading experiences and behaviors in the intimate setting of an individual interview.

The advantages of using individual interviews as a research tool include the ability to restate questions that may confuse participants, minimizing the opportunity for participants to be unresponsive or provide insufficient information, gauging patterns of reactions by interview respondents, and increasing the chance that participants will provide accurate information (Patil, 2020); however, Patil (2020) also noted that research participants might be hesitant about the loss of anonymity during a face-to-face interview and may be tempted to censor their responses. Creswell and Creswell (2018) warned of other limitations, like the increased amount of time that may be spent conducting an interview. They cautioned researchers to be aware of any bias they may bring to the interview process that might cloud data collection.

I minimized these study constraints by preparing consent forms and protocols in advance for the virtual individual interviews. These materials explained the purpose of the study, informed participants of their rights, and assured them of confidentiality. The interview consent form can be found in Appendix A. Copies of the interview protocol and questions are included in Appendix B.

Following the recommendation of Creswell and Creswell (2018), interview questions were “semi-structured” (p. 187), “open-ended” (p. 187), and “few in number” (p. 187). This format allowed participants to expound on their answers in detail and provide additional information about grading practices and behaviors. Although Creswell and Creswell stated that there is not an exact number of questions that should be asked, it is recommended that the researcher prepare five to 10 questions for participant response.

Patil (2020) provided the following guidelines for developing interview questions: create clear and explicitly stated questions; ensure questions are aligned to research objectives; create questions that are nonjudgmental; use simple sentences and language that are easily understood by research participants; avoid questions that prompt participants to provide desired responses; and be concise and focus on one idea per question. During the interviews, teachers were asked to describe their understanding and perception of their grading behaviors, how they developed these practices, and how they developed their grading methods, and to discuss factors they consider in their current grading practices.

Teacher Interview Questions

I asked the following questions during the teacher interviews:

1. What do you believe is the purpose(s) for assigning student grades? Prompts: What do you believe grades represent? What do you believe about the role of grading?
2. Describe the relationship between assigned grades and student learning. Prompt: Can you provide an example?
3. Now I would like to talk to you about grading practices. For each practice, I am curious what your thoughts are about it, whether you use or have ever used that practice, and anything else you would like to share. How do you feel about students redoing assignments or retaking assessments to improve their grades? How do you feel about grading homework? How do you feel about grading formative assessments? How do you feel about taking away points for late work? How do you feel about awarding extra credit or bonus points on assignments? Do you believe in including compliance with classroom rules in

the grading process? For example, taking away or awarding points based on how a student behaves in your class. How do you feel about students receiving a minimum grade cut score on their report cards? Is there anything else you would like to add about grading practices?

4. Now that we have talked broadly about grading practices, I'm interested in learning more about your specific grading practices. These are procedures or processes you follow when you are grading based on your beliefs and knowledge about the purposes of grades. What policies do you follow when you assign grades? Prompts: How would you describe your grading practices in relation to school and district guidelines? For example (if you have not already mentioned): How do you handle missing or late work? What is your policy for grading homework? Is behavior a factor when you assign grades? How do you handle extra credit and bonus points? Do you use specific grading tools such as rubrics and performance levels to calculate grades? Are there other grading practices that you have not already mentioned that you would like to share and discuss?
5. How did you acquire the practices you use to grade student work? Prompts: Describe any pre-service training, in-service, or professional development you may have had. Tell me about any research or reading you may have done on your own to learn more about grading and assessment.
6. How have your grading practices changed since you began your teaching career? Prompts: Can you tell me more about what led to the change in your grading practices? What factors have influenced these changes?

7. Now I would like to refer to the K-12 grading guidelines created by the district for teachers to follow. How would you describe your reaction to these grading expectations? Prompts: Would you describe your reaction as positive, negative, or neutral? Can you explain?
8. Next, I would like to know more about your reaction to specific statements in the district grading document. You may refer to a copy of the document as needed. Describe your understanding of this statement: Grading should be an assessment of student learning: a consistent and equitable process across our district. What is your reaction to this statement?
9. Describe your understanding of this statement: Grades should not be a punitive discipline tool nor merely a function of student participation and effort. What is your reaction to that statement?
10. Describe your understanding of this statement: Grading is one of many forms of feedback to assess student growth and is a dynamic and fluid component of learning. What is your reaction to that statement?

Pilot Test

A pilot test of questions was conducted prior to the interviews. The purpose of administering a pilot test is to ensure question validity and reliability, seek feedback and input on the interview questions and design, and assess interview timing (Creswell & Creswell, 2018). Prior to conducting any interviews, I asked three high school teachers to participate in a pilot interview to guarantee that the questions were coherent, bias-free, and flowed smoothly. The responses from the pilot test were used to revise the protocol and confirm that interview questions agreed with the intended instrument objectives. I

used the feedback received during the pilot stage to edit questions for clarity before engaging in study interviews. These pilot reviewers' responses were not included in the final study results.

K-12 Grading Expectations

I used the district's K-12 grading expectations document as another qualitative research tool. It is not uncommon for researchers to use qualitative documents such as newspapers, reports, journals, and emails as additional forms of data collection (Creswell & Creswell, 2018). I used the document as a point of reference to gather data from teachers during the individual interviews because it involved specific guidelines that referenced grading behaviors they were expected to follow. Although this document has not been made public, as a district employee, I accessed it to use in combination with other data sources. Researchers may use documents to collect "background information" (Centers for Disease Control and Prevention, 2018, p. 1) on the topic being studied. I utilized the document to provide context about teacher grading expectations dictated by the district and to further engage the participants during the interview process.

Quantitative Data

Quantitative data collection involves the use of numbers to describe and interpret research phenomena. Quantitative researchers use numerical evidence to draw conclusions based on direct measurement of data (Mertler, 2022). This statistical evidence may be gathered using research tools in the form of surveys, questionnaires, checklists, inventories, polls, and rating scales (Creswell & Creswell, 2018; McLeod, 2019). According to Creswell and Creswell (2018), a quantitative survey design assists the researcher with answering three kinds of questions: descriptive questions, questions

about connections between variables, and questions about future connections between variables over time. Two of the research questions involved describing the factors teachers are using for grading and how they perceive their grading practices. A survey is the most appropriate tool for compiling information on personal beliefs and attitudes about grading from a sample of teachers because it is considered the most effective method for capturing data depicting the perspectives and dispositions of a large group (Blackstone, 2012).

Benefits of using a survey include access to a large research sample, the ability to gather an extensive amount of information, easy administration, minimal costs, and ease of collection (Patil, 2020; Robinson & Leonard, 2019). Since the research participants were spread throughout the school district in various locations, an online survey format was the most suitable survey method. I used Qualtrics web-based survey software to distribute the survey to research participants. This online data collection method facilitated navigation for potential respondents and made it easier to compile and organize survey responses.

Robinson and Leonard (2019) warned that surveys are susceptible to flaws and stated that researchers should be mindful of survey errors such as inaccurate self-reporting by research respondents and “survey fatigue” (p. 4). Surveys rely on participants to report their beliefs, values, and attitudes, and there is the potential for respondents to inaccurately report information because of a reluctance to be truthful for fear of being perceived negatively, lapses in memory, or concern about anonymity. I specifically addressed issues related to confidentiality by assuring participants in the consent protocol that responses would be submitted anonymously. Furthermore,

respondents may grow weary of answering surveys and will fail to respond to requests for information (Robinson & Leonard, 2019). Response rates may also be impacted by participant interest in the topic, clarity of survey instructions and questions, and participant motivation (Qualtrics, 2023). Robinson and Leonard and Qualtrics (2023) suggested that survey response rates may increase if the researcher shares the potential impact of the research on study participants; therefore, the survey introduction explained the purpose of the study and how the results would be used. To yield the most useful data possible, I used a survey that was previously validated by Liu et al. (2006). The Teacher Perceptions of Grading Practices (TPGP) survey tool was used with permission from the researcher to collect and compare data with the qualitative information gathered from the interviews.

TPGP

The TPGP survey instrument was created by Liu et al. (2006) to measure teacher perceptions about the purpose of grading and locus of control over the grading process, inclusion of factors such as effort and ability in administering grades, and teacher grading practices. The TPGP survey has three parts and was estimated to take 10 minutes to complete. Part I contained six sections with 40 survey items: (a) importance, (b) usefulness, (c) student effort, (d) student ability, (e) teacher grading habits, and (f) teacher perception of self-efficacy in grading. The items included in Part I of the survey are included in Table 7.

Table 7

TPGP Survey Section Part I

Survey Sections 1-6
Section 1: Importance
1. Grading is an important criterion for judging students' progress.
2. Grading has a key role in classroom assessment.
3. Grading has a positive effect on students' academic achievement.
4. Grades are important measures of student learning.
5. Grades are important measures of student achievement.
6. Grading has a strong impact on students' learning.
Section 2: Usefulness
7. Grading helps me categorize students as above average, average, and below average. (continued)
8. Grading can help me improve instruction.
9. Grading can encourage good work by students.
10. Grading helps me in deciding what curriculum to cover.
11. Grading is a good method for helping students identify their weaknesses in a content area.
12. Grading can keep students informed about their progress.
13. Grading provides information about student achievement.
14. Grading documents my instructional effectiveness.
15. Grading provides feedback to my students.
16. High grades can motivate students to learn.
Section 3: Student effort
17. I consider student effort when I grade.
18. I give higher report card grades to students who show greater effort.
19. I will pass a failing student if he or she puts forth effort.
20. Grades are based on students' completion of homework.
21. Grades are based on the degree to which students participate in class.
22. Grades are based on a student's improvement.
Section 4: Student ability
23. I consider student ability in grading.
24. Grades are based on students' problem-solving ability.
25. Grades are based on students' critical thinking ability.
26. Grades are based on students' independent thinking ability.
27. Grades are based on students' collaborative learning ability.
28. Grades are based on students' writing ability.

(continued)

Survey Sections 1-6
Section 5: Teachers' grading habits
29. I tend to use letters (e.g., A, B, C) rather than numbers (e.g., 95%) in grading.
30. If a student fails a test, I will offer him/her a second chance to take the test.
31. I often give students opportunities to earn extra credit.
32. I often look at the distribution of grades for the whole class after I finish grading.
Section 5: Teachers' grading habits
33. I have my own grading procedure.
34. I often confer with my colleagues on grading criteria.
Section 6: Perceived self-efficacy of the grading process
35. Grading is the easiest part of my role as a teacher.
36. It is easy for me to recognize strong effort by a student.
37. It is easy for me to assess student achievement with a single grade or score.
38. It is easy for me to rank students in terms of achievement when I am grading.
39. It is difficult to measure student effort.
40. Factors other than a student's actual achievement on a test or quiz make it difficult for me to grade.

Note. Reprinted from *Measuring teachers' perceptions of grading practices: A cross-cultural perspective* by Xing Liu, 2007, pp. 54-55. Copyright 2007 by Xing Liu. Reprinted with permission.

Table 7 lists the survey items included in each section of Part I of the TPGP survey instrument developed by Liu et al. (2006). The first part of the survey included a Likert rating scale in which teachers responded to 40 statements about the function of grades and their grading behaviors. The 5-point scale responses were as follows: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. Part II of the survey consisted of four close-ended questions in which teachers were asked to respond to items about factors they consider when assigning final grades and how often they give major and minor assignments. The third part of the TPGP survey asked teachers to provide demographic information such as gender, subject taught, years of experience, age, educational level, and area of certification.

Liu et al. (2006) validated the content of the survey by reviewing the literature and having a team of measurement experts evaluate the items. They also produced a successful pilot test to demonstrate validity and reliability. Liu et al. explained the use of exploratory factor analysis and reliability analysis to further validate the survey. Exploratory factor analysis is used in multivariate statistics to identify factors that explain the relationship between calculated variables. In the social sciences, these variables are presumed to be "unobservable characteristics" (Watkins, 2018, p. 219) of participants, which are seen in the different results achieved by those participants on the measured variables and are frequently used by researchers to validate survey scales. Liu (2007) also used confirmatory factor analysis to validate the TPGP instrument. A full copy of the TPGP survey can be found in Appendix C.

Data Collection Procedures

Designated procedures for implementing a convergent mixed methods research design is detailed in Figure 2. Two of the major steps involved in this process are the collection and analysis of data. Table 8 shows each phase of data collection and analysis.

Table 8

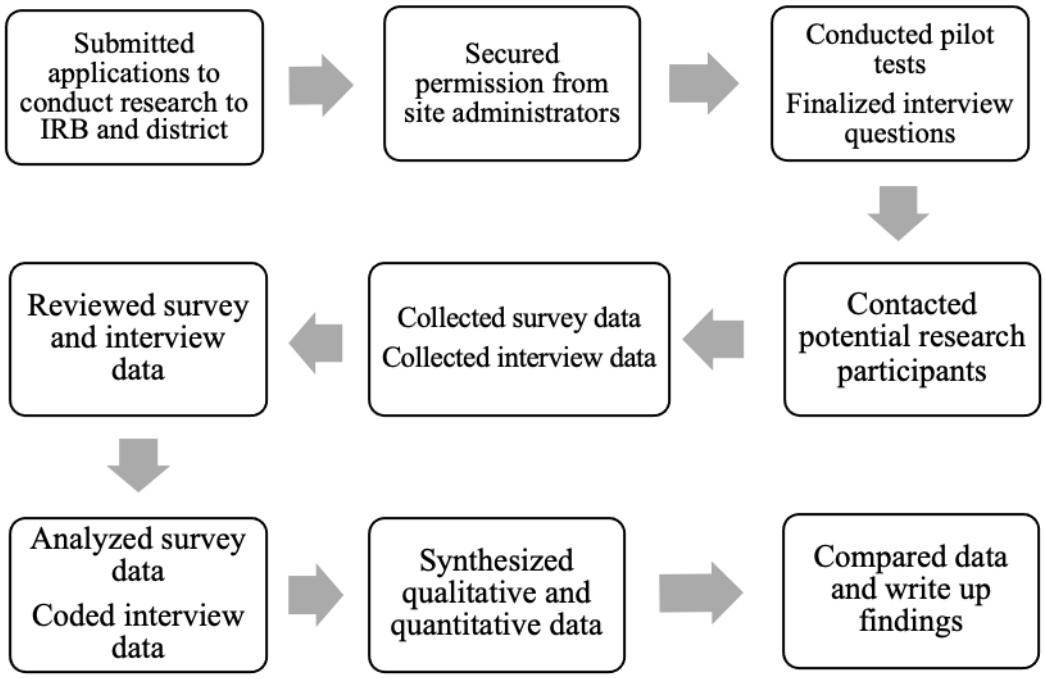
Data Collection and Analysis Timeline

Phase 1 4-6 weeks	Phase 2 4-6 weeks	Phase 3 4-6 weeks
• Submitted applications to conduct research to Gardner-Webb Institutional Review Board and the school district • Secured permission from site administrators • Conducted pilot tests • Contacted potential research participants	• Distributed survey and collect quantitative data • Conducted interviews and collected qualitative data	• Used Qualtrics software to run analytics on survey data • Reviewed interview transcripts • Coded interview responses and analyzed interview data • Integrated quantitative and qualitative findings for side-by-side comparison • Synthesized and wrote up study findings

Table 8 shows the timeline of data collection procedures. Each phase outlined the set of tasks and an approximate timeline for completion of the process. During the first phase of data collection, I received the approval to conduct research from the Institutional Review Board (IRB) and the school district. Once I received permission, I contacted school administrators for consent to conduct research at their school site. In preparation for the interviews, I conducted pilot tests of teacher and administrator interview questions during this phase. Once feedback was received, the interview questions and protocol were finalized. Phase 2 focused on collecting data through surveys and administering interviews. Phase 3 involved analyzing and triangulating the data accumulated during the second phase and using it to report study findings. Figure 3 illustrates the flow of the data collection and analysis process.

Figure 3

Data Collection and Analysis Process



Sampling

Creswell and Creswell (2018) acknowledged that sample size may be a concern in mixed methods research designs because of the difference in the amount of data collected. Quantitative studies typically require a larger sample, and the qualitative sample size is usually smaller in quantity. This inconsistency can be explained by the intent of gathering qualitative data. Although the qualitative data yields a lower sample size, the researcher's purpose is to gather a large amount of information from the selected sample (Creswell & Creswell, 2018). Mixed methods researchers may resolve this issue in several ways: collect an equal amount of information using both methods, weight the qualitative cases to make them equivalent to the quantitative data, or decide that the difference in sample sizes is not a problem (Creswell & Creswell, 2018; George, 2021). I had unequal sample sizes for this research study based on the argument presented by

Creswell and Creswell that each method has a unique purpose and provides a sufficient sample size. In mixed methods research, the sample size for the qualitative and quantitative portions of research does not need to match (Creswell & Creswell, 2018). It has been suggested that the number of interviews is subject to researcher judgment (Cobern & Adams, 2020) and should be finalized once saturation has been reached and the researcher has determined additional data collection would render similar results (Faulkner & Trotter, 2017).

I drew from the same population of participants in the qualitative and quantitative aspects of the study to achieve a greater level of similarity and strengthen the comparison of both sets of results, but the sample size was smaller for the qualitative portion of the study. It is not unusual for qualitative researchers to avoid restricting their research by providing a definitive sample size, which could vary from one to 60 depending on the research question and approach (Creswell & Plano Clark, 2017). I planned to interview 12 certified high school teachers based on the recommendation from experts (Creswell & Creswell, 2018; Creswell & Plano Clark, 2017) that researchers should focus on pinpointing a smaller sample of participants who will provide more extensive information; however, it has been suggested the number of interviews is subject to researcher judgment (Cobern & Adams, 2020) and should be finalized once saturation has been reached and the researcher has determined additional data collection would render similar results (Faulkner & Trotter, 2017).

Purposive Sampling

I used purposive sampling to invite participants to take part in the interviews. Creswell and Creswell (2018) stated that the premise behind qualitative research is to

intentionally choose participants or sites that give the researcher the best chance of delving into the research question and providing useful information. This study explored secondary teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these practices with equitable grading principles. I concentrated on reporting on the grading behaviors of certified teachers at the high school level (Grades 9-12). The qualitative and quantitative samples included certified high school teachers across all subject areas within the district research site who were responsible for assigning grades because it was essential to the phenomenon being studied. I used the snowball approach to obtain additional research participants when I was unable to reach the designated sample size for the interviews. This form of purposive sampling involved using participants with whom I had already made contact to refer other potential research participants as possible study contributors (Creswell & Plano Clark, 2017).

Convenience Sampling

I also used convenience sampling to select the sites and study participants to collect data, as I am a staff member within the district. This sampling method has also been referred to as “accidental” (Radhakrishnan, 2014, p. 24) sampling because the researcher is drawing from a pool of people who are conveniently accessible. As a district employee, I was able to easily and inexpensively collect data from the surrounding school sites in the district. This ability is considered a major benefit of convenience sampling (McCombes, 2022). Another benefit was my position as a district insider, which gave me the opportunity to increase survey response rates and solicit more comprehensive interview responses.

Quantitative Data Collection

The quantitative data for this study were collected using a link to the TPGP survey provided through an email. I sent an email to school administrators to explain the purpose of the study and requested permission to contact teachers at each school site. A copy of this email is available in Appendix D.

Once administrator confirmation to contact teachers was received, I sent a blind copy email with a link to the self-administered web-based Qualtrics survey (Appendix C) to teachers at each school site. A copy of the text included in this email is also included in Appendix D. The survey was anonymous. It began with an introduction to explain the research study's purpose, discussed privacy concerns, asked the participant to grant informed consent, and provided my contact information.

Response rate is important because it impacts the quality of study data. Having enough respondents is necessary to have an acceptable study sample size number and to ensure validity (Qualtrics, 2023). According to Qualtrics (2023), researchers who receive a higher number of survey responses increase the likelihood of receiving high-quality data; the average response rate typically falls between 20% and 30%. To counteract low response rates, I made sure the email invitation contained friendly and inviting language, clearly stated the study purpose and approximate completion time, and reinforced confidentiality safeguards (Manzo & Burke, 2012). There were approximately 400 high school teachers in the district, and my goal was to have an average response rate between 20% and 30% with 100 to 150 survey responses submitted. I allowed 2 weeks for survey completion.

I followed district research protocol and sent one additional reminder email

within 1 week of the initial contact. I requested assistance from my school administrators and assistant principals at the other high school sites to issue reminders and prompt teacher responses. I attempted to reach the targeted sample size by using my professional network to conduct snowball sampling and contact potential participants to request their participation.

Qualitative Data Collection

The email sent to teachers containing the survey included a link to a separate form inviting survey respondents to provide their information to indicate interest in participating in an interview. Interview participation was not dependent on survey completion. Teachers had the option to take the survey and/or take part in qualitative data collection. Volunteers were contacted by email and/or phone call to coordinate and conduct interview meetings as responses were collected during Phase 2. The interview questions were used to extract detailed responses from the research subjects to solicit in-depth information about grading practices.

My goal was to conduct 12 teacher interviews. I chose this number under the assumption that I could reach a level of data saturation using this sample size. I prioritized potential participants based on the order in which volunteer form submissions were received. Participant referrals were sought through teacher colleagues and school administrators to try and recruit the designated number of interview volunteers.

Individual teacher interviews were conducted using the Google Meet video conferencing platform. I safeguarded the security of the video conference meeting by providing participants with a secure link to join the session. I included the consent information in the email to arrange for interview scheduling. The interviews were

recorded through the video conferencing software. I asked for authorization prior to recording and assured participants that recordings were stored securely, and access was restricted to the researcher. Recordings were not shared, and identifying information was removed from research findings and transcripts. Transcriptions provided by the video conferencing tool or audio recordings were reviewed for accuracy within 48 hours of the interviews. The data were stored in a secure computer folder for data analysis.

Conducting Online Interviews

When conducting the online interviews, I considered the following three points described by Topping et al. (2021): potential technical issues and user accessibility to technology, interview surroundings, and time/cost efficiency of gathering data virtually. I used Google Meet as the interview platform because the district provides access to the Google Education Suite of applications, it was a tool familiar to district staff, and there was an extra layer of security provided by the district to restrict unauthorized user access. When I sent the email to schedule the interviews, I informed participants that if we were disrupted due to service interruptions or outages, we would reschedule for another convenient date and time.

I ensured that I was in a quiet and secure space during the interviews and also advised participants to select an interview environment that was comfortable and conducive to privacy. This helped reduce the possibility of distractions and eliminated concerns about confidentiality. I remained mindful that the remote nature of conducting an online interview may have limited the physical interaction afforded through traditional face-to-face interviews. Schwartzberg (2020) and Wiederhold (2020) suggested that researchers can address this limitation by looking at the camera rather than the screen as

much as possible to mimic physical eye contact. I relied on listening closely to voice inflections and documenting observations in my interview field notes.

Participants received a Google calendar invitation with the virtual meeting link once the interview was scheduled. Reminder emails the day prior to the interview were sent to curtail participants failing to show up. The calendar invite and email follow-up helped maintain the time and expense spent traveling to speak with participants face-to-face.

Ethical Considerations

Various ethical dilemmas are an expected part of studies involving human subjects and may be unanticipated based on the experiences participants bring to the study (Saldaña, 2021). Collecting data requires the researcher to consider the ethics involved with gathering and storing information (Creswell & Creswell, 2018). Following a code of research conduct is intended to protect the privacy and interests of the participants as well as the “integrity of research” (Creswell & Creswell, 2018, p. 88), and I followed the recommendations made by Creswell and Creswell (2018) for managing potential ethical issues. Ethical considerations were present throughout the various phases of data collection. Before collecting any data, I submitted a research proposal to the Gardner-Webb IRB to seek permission to carry out the study and followed the procedures required by the school district for conducting research. Prior to the study, I acquired permission to use the survey instrument. Copies of the consent letter and permission to use the survey instrument are included in Appendix E.

Research participants were given consent forms providing information about the study's purpose. Written consent information was included with the survey and provided

prior to conducting interviews (Appendix A). I reviewed the consent information orally as a part of the protocol before the teacher interviews. I detailed how I would protect the privacy of the subjects with the intent of helping them make an informed decision about taking part in the study. Participants were given an overview of the study, an explanation of their role in the study, details about study risks and/or benefits, researcher and research committee contact information, and authorization to withdraw from the study at any time.

I used pseudonyms to protect the anonymity of the district, schools, and teachers connected to the study. Actual participant names were restricted to consent forms, and an alphanumeric identification was used and assigned to research participants. I created a list of codes with participant names along with their assigned IDs and stored them securely along with interview transcripts. Videos and other documents with identifying information remained under secure storage, and access was restricted to the researcher. I informed participants that all data would be destroyed 3 years after the study was completed. An application was submitted to the Gardner-Webb IRB for approval first, per school district policy. Once accepted, the district application to conduct research was submitted. Upon IRB and district approval, an email was sent to the administrators of each district high school to ask for permission to contact teachers as potential research participants.

Data Analysis

The next step following data collection is to analyze the data sets individually using the appropriate procedures. The data analysis method for each question was based on the instrument used for data collection. Table 9 shows the alignment of the research questions with the study instruments and methods for analysis.

Table 9

Alignment of Research Questions, Data Instruments, and Data Analysis Methods

Research Question	Instrument	Data Analysis
How do teachers perceive their grading practices?	TPGP Survey Part I Section 1, 2, 6 TPGP Survey Part II	Quantitative data from the survey instrument was analyzed using statistical software to report descriptive statistics
	Teacher Interview Questions 1 & 2	Qualitative data provided during the one-on-one interviews was analyzed using deductive and inductive coding
What factors do teachers report that they consider when assigning student grades?	TPGP Survey Part I Section 3 - 5 TPGP Survey Part II	Quantitative data from the survey instrument was analyzed using statistical software to report descriptive statistics
	Teacher Interview Questions 3 & 4	Qualitative data provided during the one-on-one interviews was analyzed using deductive and inductive coding
How do teachers describe the evolution of their grading practices?	Teacher Interview Questions 5 & 6	Qualitative data provided during the one-on-one interviews was analyzed using deductive and inductive coding
	TPGP Survey Part I Section 5	Quantitative data from the survey instrument was analyzed using statistical software to report descriptive statistics
How do teacher grading practices align with the three pillars of equitable grading?	TPGP Survey Part I Section 3 - 5 TPGP Survey Part II	Quantitative data from the survey instrument was analyzed using statistical software to report descriptive statistics
	Teacher Interview Question 7-10	Qualitative data provided during the one-on-one interviews was analyzed using deductive and inductive coding

Table 9 details the research methods, instruments, and data analysis methods I used for each research question. I collected both types of data and conducted a separate

analysis to prepare for integrating and explaining the results during the study's final stage (Zhang & Creswell, 2013). In a convergent mixed methods study, analyzing data occurs in three stages: (a) Qualitative data are coded and organized in themes; (b) quantitative data are analyzed using statistical measures; and (c) both sets of data are combined for analysis (Creswell & Creswell, 2018).

Qualitative Data Analysis

Qualitative data analysis involves organizing, analyzing, and interpreting data to uncover themes and answer the research questions (Hotjar, 2022). This process is sequential and involves preparing and organizing interview transcripts or notes, reading the interview data in their entirety, coding the data, creating descriptions and themes, and reporting analysis findings (Creswell & Creswell, 2018). The data provided from the interview transcripts were reviewed and analyzed for meaning by producing codes. A code is a single word or series of words used to assign a particular attribute to a set of data (Creswell & Creswell, 2018; Saldaña, 2021).

The coding process includes conducting a line-by-line review of the data (Linneberg & Korsgaard, 2019). Although there are numerous ways to undertake the coding process, research methodologists have recommended selecting a coding method before coding begins to ensure agreement with the conceptual framework and research questions (Saldaña, 2021). The traditional approach for coding qualitative research is inductive, meaning the researcher creates codes drawn directly from the data provided by participants. The researcher reads the data looking for a pattern of reoccurring phrases or terms shared by the research subjects. This method is highly appropriate for studies involving exploration or for which there are no existing theories (Linneberg &

Korsgaard, 2019); however, I used the theoretical and conceptual frameworks for the research study to create preexisting codes for organizing the data into categories. This form of deductive coding is also referred to as concept-driven or a priori coding (Saldaña, 2021). Deductive coding involves creating a predefined list of codes based on theory, literature, or research questions (Azungah, 2018; Linneberg & Korsgaard, 2019; Saldaña, 2021). The a priori codes I identified are listed in Table 10.

Table 10

A Priori Codes for Qualitative Data Analysis

Code	Framework	Definition
Teacher knowledge	Teacher grading decision-making	Teacher experience with and knowledge of grading practices
Beliefs and values	Teacher grading decision-making	Teacher beliefs about the purpose of grading
Expectations	Teacher grading decision-making	Teacher expectations about how grades should be used
External factors	Teacher grading decision-making	Factors outside of the teacher's control that impact grading practices
Classroom realities	Teacher grading decision-making	Aspects of the classroom environment involving students that teachers cannot control or avoid
Decision-making rationale	Teacher grading decision-making	Explanations or reasons for how student work is evaluated and graded
Grading practices	Teacher grading decision-making	Specific factors included in the grading process
Accuracy	Three pillars of equitable grading	Grading calculations make mathematical sense, are easy to understand, and describe academic performance
Bias-Resistant	Three pillars of equitable grading	Grades based on evidence of content knowledge, external factors not included, objective academic performance measures
Motivation	Three pillars of equitable grading	Grading practices are transparent, promote a growth mindset, and provide multiple opportunities for students to achieve success

Table 10 provides the a priori codes used for analyzing the qualitative interviews.

It is recommended that researchers develop a codebook to define codes that may be referenced during the interview and to create a sense of uniformity and coherence (Smith, 2021). These codes are based on the teacher grading decision-making framework (Kunnath, 2017; McMillan & Nash, 2000) and the three pillars of equitable grading conceptual framework (Feldman, 2019b). According to Smith (2021), using deductive coding facilitates the process for the researcher and "anchors the study in the literature" (p. 17).

I conducted a second round of inductive coding to create additional codes as new concepts were identified that were not represented by the existing codes (Smith, 2021). Inductive conducting, also known as in vivo coding, allows the researcher to keep an "open a mind as possible" (Saldaña, 2021, p. 41) about the prospect of other themes being revealed through the data analysis. Saldaña (2021) shared that in vivo coding uses participant responses as codes instead of terms created by the researcher. After reading the interview transcripts, I assigned codes to the data. The codes were used to determine patterns and identify themes representing important study findings. Figure 4 shows an outline of the steps in the coding process as explained by Tesch (2013).

Figure 4

Tesch's Eight Steps in the Coding Process

1. Read through interview transcripts and begin recording ideas that occur during the review of the text.

2. Choose one interview to review. Record thoughts about the underlying meaning of the information. Repeat this step for several other interviews.

3. Create a list of topics revealed from the review of the interviews. Group similar topics together and organize them into columns.

4. Revisit the data. Use the list of topics to create codes. Write the codes next to relevant sections of text. Look for new codes to emerge.

5. Look for wording that best describe the topics and convert them into categories. Reduce categories by grouping related topics together.

6. Create abbreviations for each category and put these codes in alphabetical order.

7. Compile the data assigned to each category in one place and conduct an initial analysis.

8. Recode existing data as needed.

I used direct quotes as evidence to support the themes identified while coding. The themes discovered from the in vivo coding process and the a priori codes were used to analyze the data and discuss findings for Research Questions 1-4.

Quantitative Data Analysis

I analyzed the quantitative data from participant responses to the TPGP close-ended survey questions, which include a rating scale and multiple-choice items. The data were collected and analyzed using the Qualtrics software. Qualtrics (2023) allows users to create surveys, build surveys, and analyze responses. This software was chosen because it allowed me to easily extract and analyze the TPGP survey data for the purpose of conducting a descriptive analysis. I took the data collected through the Qualtrics online survey tool and analyzed the results. The data analysis included grading factors, teacher grading practices, teacher perceptions of grading, and teacher demographics. Descriptive statistics was used to summarize the data and show possible patterns that emerge from responses. Using descriptive statistics allows the researcher to present and interpret raw data from a research sample group in a more useful way (Laerd Statistics, 2018). Table 11 shows the TPGP survey items I analyzed for the quantitative portion of the study.

Table 11

TPGP Survey Quantitative Data Analysis

Quantitative data	Items
Importance of grading	Part I, Items 1-6
Usefulness of grading	Part I, Items 7-11
Influence of student effort on grading	Part I, Items 17-22
Influence of student ability on grading	Part I, Items 23-28
Teacher grading habits	Part I, Items 29-34
Perceived self-efficacy of the grading process	Part I, Items 35-40
Grading factors	Part II, Item 1
Grading behaviors	Part II, Items 2-4
Teacher demographics	Part III, Items 1-4

Table 11 shows the sections of the TPGP survey items (Appendix C) used to analyze the quantitative data. These data helped answer Research Questions 1, 2, and 4. Acting in accordance with a parallel mixed methods analysis design, I integrated the two sets of qualitative and quantitative data results and merged them in a "side-by-side comparison" (Creswell & Creswell, 2018, p. 220) to study the results for "supportive and non-supportive findings" (Creswell & Creswell, 2018, p. 240). The quantitative results were reported first, followed by qualitative findings.

Summary

This chapter introduced a summary of the literature on grading, including concerns surrounding grading variability among teachers, the shortfalls of traditional grading practices, and the potential impact on students. The literature implied that there is still much to be understood about teacher grading behaviors. Despite the work of grading researchers citing multiple problems with the historical grading system, teachers may still be exercising these practices.

I described my research plan, methods, instruments, and procedures for collecting

and analyzing data to explore high school (Grades 9-12) teacher perceptions about their grading practices, the evolution of their grading behaviors, and the alignment of these grading behaviors with equitable grading practices. Utilizing a convergent mixed methods study design, I captured research participants' perspectives using a combination of quantitative survey data and qualitative interviews. This information was used to seek answers to the research questions. Details about the study purpose, participants, instrumentation, collection methods, and procedures for data analysis were provided. The delimitations were explained, and strategies for addressing study limitations were also shared. In Chapter 4, I discuss the study results.

Chapter 4: Results

Introduction

The purpose of this research study was to explore secondary (Grades 9-12) teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. This chapter shares an analysis of data gathered through a survey and individual teacher interviews. The data collected from each study instrument were used to answer the following research questions:

1. How do teachers perceive their grading practices?
2. What factors do teachers report that they consider when assigning student grades?
3. How do teachers describe the evolution of their grading practices?
4. What are the equity implications of teacher grading practices?

For this mixed methods study, I utilized a survey to collect quantitative data and conducted one-on-one interviews with teachers to gather qualitative data. The invitation to participate in the survey and study interviews was shared with all ninth- through 12th-grade classroom teachers at the six high school sites within the district. Research results in this chapter were based on the study participants' responses to the survey and the teacher interviews. An analysis and triangulation of data from both study instruments is provided in this chapter.

The chapter is organized into two sections. The first section details the characteristics of the study participants. This information was collected using demographics reported through the survey and teacher interviews. The second section of

the chapter presents the quantitative findings from the survey and the themes created from the interview responses. I examined the results in relation to each research question. Chapter 4 concludes with a summary and preview of the discussion in the following chapter.

Study Participants

Study participants were recruited through convenience and purposeful sampling of all certified ninth- through 12th-grade teachers from the six high schools in District X. Five of the high schools are brick-and-mortar sites, and one site provides virtual (online) instruction. The study population consisted of 406 teachers from high schools across the district. Email invitations were sent, and teachers were given the option to respond to a survey and/or request an interview. District research guidelines dictated that participant recruitment be filtered through principals, and contact was restricted to two teacher emails. I sent the initial email and waited a week before sending a follow-up email to prompt additional responses. Repeated efforts were made to recruit participants from all sites by making phone calls and requesting assistance from teachers. Of the 406 teachers in the targeted study population, 11 teachers completed interviews and 59 teachers completed the survey for a response rate of 15%. It should be noted that disproportionate response rates among schools impacted the study sample, and with a smaller sample size, caution must be applied, as the findings may not be representative of the entire study population.

Survey Participants

The TPGP online survey was used to gather quantitative data from certified teachers within those six high school sites. Each study participant was a certified ninth-

through 12th-grade teacher with the responsibility of grading student work and currently working at a district high school. Subjects were asked to supply demographic information for the final part of the survey. Table 11 summarizes the data submitted by participants in the demographic section.

Table 12

TPGP Survey Participant Profiles (N=59)

Content area	*n*	Age range	*n*	Gender	*n*	Race	*n*	Highest level of education	*n*	Experience	*n*
Social studies	11	20-30	10	Female	42	Black/ African American	21	Bachelor's	13	Less than 5 years	9
Science	6	30-40	12	Male	17	White	27	Master's	40	5-10 years	8
English	9	40-50	19			Asian	3	Doctorate	8	10-15 years	10
World languages	7	50-60	15			Hispanic	8			15-20 years	31
Career & technology education	8	60+	2								
Special education	2										
Math	10										
Fine arts	2										

Table 12 details the demographic profiles of the survey participants. Four participants did not specify their content area; one person omitted their years of teaching experience; and one survey participant did not designate their age range. Social studies teachers made up the largest proportion of content area respondents. There were substantially more female participants than male. Nearly 70% of teachers had advanced degrees, more than 50% had been teaching more than 15 years, and over 30% were between 40 and 50 years old. It is necessary to consider that study findings were likely

shaped by the participants' gender, educational level, content area, and years of experience. Table 12 shows a breakdown of survey participants by school.

Table 13

Survey Participation by School Site (N=59)

School	Number of participants	Percentage
School A	8	15.1%
School B	8	15.1%
School C	20	37.7%
School D	11	20.8%
School E	4	7.5%
School F	2	3.8%

Table 13 demonstrates that nearly 40% of the survey respondents were from School C. School D had the second-highest percentage of survey responses. Both schools also had the highest number of interview participants. The high response rate for School C compared to other schools may be explained by my role as an employee at this site. Despite my efforts to recruit additional participants, Schools E and F had very low survey response rates in comparison to the other schools. It is important to bear in mind the possibility that the results are not representative of the entire study population due to the large portion of the survey sample represented by teachers who work with me at my school site. This limitation is included in the upcoming chapter.

Interview Participants

The 14 teachers who completed an interview request form were contacted by email and phone to arrange an interview. After multiple attempts to make contact, 11 teachers scheduled times and completed interviews. Although I conducted a smaller number of interviews than originally planned, I determined that this was an adequate sample once I reached saturation and was unable to collect new information or insight

from participants (Charmaz, 2014).

The interview participants represented four district high school sites included in the study. Although care was taken to report themes found across disciplines, because the sample was limited and some sites were underrepresented, the results may not be generalized to the entire study population. Study participants were asked to share their perceptions about grading, specify factors they consider when assigning student grades, describe how they developed their grading behaviors, and recount how their grading practices may have evolved over time. The profile information for interview participants is provided below. Teacher names were labeled and replaced with numbers to maintain confidentiality.

Teacher 1

Teacher 1 is a social studies teacher. Her courses include junior and senior students, but she primarily works with 11th graders. She has been teaching for 15 years. Teacher 1 has a bachelor's degree, has earned some graduate credits since she began her teaching career, and is planning to pursue National Board teaching certification.

Teacher 2

Teacher 2 has 22 years of teaching experience. She currently holds a part-time position teaching ninth and 12th graders. Her courses include English at the college prep and honors levels. She holds a master's degree in education.

Teacher 3

Teacher 3 is a science teacher. She has a total of 20 years of classroom experience and has a master's degree. Teacher 3 has worked in another district in a neighboring community during her teaching career.

Teacher 4

Teacher 4 is a world languages teacher. He is fairly new to the district and his current school site but has 17 years of teaching experience. He teaches ninth- through 12th-grade students. He has a master's degree in education.

Teacher 5

Teacher 5 has taught English for 19 years. She teaches 10th- and 11th-grade English at her current site. She holds a doctorate in education and has worked in multiple schools in surrounding districts during her teaching tenure.

Teacher 6

Teacher 6 is a novice teacher with 2 years of experience. He teaches social studies college prep classes and an advancement placement course. Teacher 6 has a master of arts in teaching and became a teacher through alternative certification.

Teacher 7

Teacher 7 has been teaching for 26 years. He is a 10th-grade social studies teacher. Teacher 7 has an educational specialist (EdS) degree and is enrolled in an EdD program.

Teacher 8

Teacher 8 is an English teacher. She has 14 years of teaching experience and entered the profession through an alternative certification route. Teacher 8 works with ninth and 11th graders. She has an EdS degree in educational technology and literacy.

Teacher 9

Teacher 9 has been teaching for 14 years. He is an 11th-grade social studies teacher. He recently transferred to District X from another local school district. Teacher 9 has a bachelor's degree and is working on a master's degree in administration.

Teacher 10

Teacher 10 is a ninth-grade math teacher. She has been an educator for 32 years and is the most experienced of the interview participants. She has a doctorate in education.

Teacher 11

Teacher 11 teaches Grades 9-12. Her courses include multiple science classes. Teaching is her second career, and she has more than 20 years of classroom experience. She earned a master's degree in education.

The demographics for interviewees shared some similarities with survey respondents: 64% were female and over the age of 40, 80% held advanced degrees, and over half were veteran teachers with more than 10 years of experience. While only 36% of the survey participants were Black/African American, this demographic group represented more than 50% of the interview subjects. Social studies teachers represented the largest content area in the pool of interviewees (n=4), followed closely by English teachers (n=3). Two science teachers were interviewed in addition to one world languages teacher and one math teacher. It is important to note the potential impact of participant profiles on study results. My interview sample was skewed toward two main content areas and consisted of teachers with multiple years of experience; therefore, my interpretation and understanding of the findings cannot be extrapolated to the general population. I address this limitation in Chapter 5.

Data Analysis

Prior to beginning the data collection process, I was granted permission to conduct research by the IRB, school district, and high school principals. A recruitment

email was sent to teachers at each of the six high school sites. In order to include participants from a broad range of content areas that met the sampling criteria, recipients at four of the school sites were chosen based on their job titles in the staff directory on their school websites. Two of the school principals forwarded the recruitment email to teachers at their site on my behalf. Study participants were asked to participate by completing an online survey and/or individual interview through Google Meet. Consent forms were included in the request for participation and submitted by participants prior to collecting data.

Quantitative Data

The electronic TPGP survey was distributed through the online Qualtrics software. It contained 44 items and several demographic questions. The first part of the survey consisted of 40 items requiring a rating scale response, and the second section contained four close-ended questions. Items 1-40 required participants to select a rating indicating their level of agreement or disagreement with particular statements. In the second portion of the survey (Items 41-44), teachers were asked to select a response for the close-ended question that best represented their grading practices and behaviors. The third portion (Items 45-52) was included to obtain demographic data.

After surveys were submitted, I accessed the data report through Qualtrics and reviewed the responses to each survey item. I analyzed the quantitative TPGP data using descriptive statistics. For each item, I obtained the breakdown of the minimum, maximum, and mean rating scores. I used the percentage calculations from the rating responses for each question to present the information in the form of tables in order to interpret the data.

Qualitative Data

The qualitative data for this study were collected using individual interviews with the 11 high school teacher participants. I created the interview questions in alignment with the four research questions. All interviews were recorded using the Google Meet recording and transcript functions. After I completed the individual interviews, I downloaded copies of the Google Meet transcripts. I opened an electronic copy of each transcript and read along while I watched and listened to each interview recording to ensure accuracy. Following my review, I saved all changes to the downloaded copies of the transcripts in preparation for coding and thematic analysis.

I manually coded the data using Microsoft Word and Excel. First, I opened each transcript and created a two-column table above the interview data. Then I copied the entire body of text from the transcript and pasted it into the left column. I conducted a line-by-line reading of the interview transcript and began inserting codes that described the data in the right column. A priori codes (deductive codes) were created beforehand to identify and chunk segments of data using the theoretical and conceptual framework as well as interview questions. Then I performed a second round of inductive coding and read over each transcript again to identify other concepts. These codes were added to the column on the right side, which was also used to document notes. The a priori codes were initially developed prior to coding and analyzing the data for each research question; however, conducting additional inductive coding opened up broader elaborations of the a priori codes and led to more meaningful content analysis (Saldaña, 2021).

Next, I organized and arranged the codes. I opened an Excel spreadsheet and set up columns for each interview transcript by labeling them Teacher 1, Teacher 2, etc. All

recorded codes from each transcript were copied from the tables in Word to the spreadsheet under the appropriate transcript label. Figure 5 shows a partial snapshot of the Excel spreadsheet used to organize the codes from interview transcripts.

Figure 5

Excel Coding Spreadsheet

	C	D	E	F	G	H	I	J
1	**Teacher 3**	**Teacher 4**	**Teacher 5**	**Teacher 6**	**Teacher 7**	**Teacher 8**	**Teacher 9**	**Teacher 10**
2	Grades Measure Student Learning	Grades reflect skills taught	Grades measure student performance and work completion	Grades Measure Student Progress	Grades Reflect Learning	Grades Reflect Student Learning	Accountability	Grades reflect skills taught
3	Grades Don't Always Reflect Learning	Grades reflect learning	Grades communicate learning progress to students	Grades Measure Work Ethic	Believes in retakes/redos	Technology eliminates grading bias	Accountability	Learning
4	Believes in Grading Policy Revisions	Grades & skills not always integrated	Agrees with retakes/redos in theory, not application	Grades Given for Completion	Retakes/redos are a second chance	Grades used for guiding instruction	Feeedback	Connection
5	Holistic	Believes in retakes/redos	Students need to be prepared for college	Grades include timeliness and work ethic	Student performance affected by external factors	Grades reflect learning growth	Grades not always correlated to learning	Retakes/redos with remediation
6	Has reservations about retakes/redos (credit recovery) for students who do not make an effort	Corrective feedback	Homework should be graded for completion and accuracy	Past experience as a student	It is okay to grade homework for completion or acccuacy	Feels good about redos/retakes	Variability	Homework graded

Setting up this spreadsheet allowed me a uniform view of the codes. I read through each column to ensure that I was using codes with consistent wording across transcripts. As coding is an iterative process (Saldaña, 2021), multiple readings of the transcript data led me to refine codes to best represent the data. The next step was to check each transcript to replace codes as needed and verify that the codes in the tables matched the Excel spreadsheet.

Finally, I opened a new tab on the same spreadsheet and used it to place similar codes into columns that were labeled by category. Codes were grouped into categories based on the connections I made between different pieces of data. For example, codes such as "takes away points for late work" and "doesn't like awarding extra credit/bonus points" were placed into the category "grading practices" because they described specific teacher grading behaviors. Afterward, I used frequency coding to tally the number of

times each code occurred across interviews. Calculating the frequency of the codes can help the researcher identify themes and ideas that may be recurring (Saldaña, 2021). Figure 6 shows an excerpt from the spreadsheet tab used to create the categories.

Figure 6

Excel Coding Categories Spreadsheet

	B	C	D	E	F
1	**Source of Feedback**	**Teacher Reactions**	**Grading Changes**	**Grading Equity**	**Grading Practices**
2	Corrective Feedback	Following District Policy (7)	Wishes for school-wide consistency regarding assessment	Grades Don't Always Reflect Learning (8)	Doesn't Assign Homework (4)
3	Feedback does not have to be graded	Disagrees with Grading as Consistent Process	Wishes formative assessments were not graded	Does Not Agree with 10-point grading scale	Doesn't Like Taking off Points for Late Work (2)
4	Feedback (6)	Ambivalence about Grading Practices	New teachers need more guidance on grading expectations	Rarely Gives Extra Credit/Bonus Points (4)	Doesn't like Awarding Extra Credit/Bonus Points (2)
5	Not everything will receive fee	Feels negatively about district grading expectations (2)	Holistic grading (3)	Behavior Should Not Be Included in Grading (4)	Uses Models & Exemplars

I prioritized codes that occurred frequently throughout different interviews because they indicated common ideas among the interview participants. I used the frequency of the codes within the categories to identify patterns and develop themes supported by the data. This information was prepared in the form of tables containing the codes, categories, and interview quotes. More codes than appear in the qualitative data tables were documented, but only codes relevant to the thematic analysis were included in each table.

Data Results

I triangulated the data to validate the study findings and corroborate established themes (Creswell & Creswell, 2018). Triangulation consisted of converging the results of the survey data with teacher interview data for comparison to identify connections and

develop themes in order to better understand the research topic. In the section that follows, both sets of data were organized and summarized by research question to provide a thorough analysis of the research findings.

Research Question 1: How Do Teachers Perceive Their Grading Practices?

The first research question was created to determine how teachers perceive their grading practices and their views and beliefs about grading. Answering this question entailed studying how teachers described the purpose of grades and how they are used. I also sought to learn more about the underlying teacher philosophies and principles that may drive these perceptions.

Survey. Three sections (1, 2, and 6) in Part I of the TPGP survey addressed this research question. Table 14 shows the items in the first section of the survey.

Table 14

Survey Section 1 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Grading is an important criterion for judging students' progress.	15.3% (*n*=9)	59.3% (*n*=35)	13.6% (*n*=8)	8.5% (*n*=5)	3.4% (*n*=2)
2. Grading has an important role in classroom assessment.	22.% (*n*=13)	62.7% (*n*=37)	8.5% (*n*=95	5.1% (*n*=3)	1.7% (*n*=1)
3. Grading has a positive effect on students' academic achievement.	5.1% (*n*=3)	45.7% (*n*=27)	32.20% (*n*=19)	15.25% (*n*=9)	1.69% (*n*=1)
4. Grades are important measures of student learning.	13.6% (*n*=8)	51% (*n*=30)	13.6% (*n*=8)	20.3% (*n*=12)	1.7% (*n*=1)
5. Grades are important measures of student achievement.	11.9% (*n*=7)	42.4% (*n*=25)	27.1% (*n*=16)	13.6% (*n*=8)	5.1% (*n*=3)
6. Grading has a strong impact on students' learning.	6.8% (*n*=4)	42.4% (*n*=25)	32.2% (*n*=19)	13.6% (*n*=8)	5.1% (*n*=3)

Table 14 shows participant responses to Items 1-6 in the first section of the survey. Participants were given five rating scale options from which to select a response: strongly agree, agree, neutral, disagree, or strongly agree. These statements were directly related to teacher perceptions about the importance of grading. Survey data revealed that 85% of teachers (*n*=50) agreed or strongly agreed with the statement that "grading has an important role in classroom assessment." Seventy-one percent (*n*=44) agreed or strongly agreed that "grading is an important criterion for judging students' progress." Sixty-five percent (*n*=38) agreed or strongly agreed that "grades are important measures of student learning." Fifty-four percent of teachers (*n*=32) agreed or strongly agreed that grades are "important measures of student achievement," and 51% (n=30) agreed or strongly agreed that grades have a "positive effect on students' academic achievement."

The results from Table 14 appear to indicate that teachers placed value on grades for the purpose of keeping track of student learning progress. Based on the high level of agreement with each of these statements, it seems apparent that study participants tended to link grades to learning. These data implied that teachers placed priority on using grades for assessing student academic performance and that grades may positively impact student achievement. Table 15 shows the next set of survey responses for Questions 7-16.

Table 15

Survey Section 2 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
7. Grading helps me categorize students as above average, average, and below average.	11.9% (*n*=7)	44.1% (*n*=26)	18.6% (*n*=11)	20.3% (*n*=12)	5.1% (*n*=3)
8. Grading can help me improve instruction.	23.7% (*n*=14)	57.6% (*n*=34)	6.8% (*n*=4)	10.2% (*n*=6)	1.7% (*n*=1)
9. Grading can encourage good work by students.	13.6% (*n*=8)	55.9% (*n*=33)	18.6% (*n*=11)	8.5% (*n*=5)	3.4% (*n*=2)
10. Grading helps me in deciding what curriculum to cover.	10.2% (*n*=6)	35.6% (*n*=21)	22% (*n*=13)	23.7% (*n*=14)	8.5% (*n*=5)
11. Grading is a good method for helping students identify their weaknesses in a content area.	13.6% (*n*=8)	61% (*n*=36)	10.2% (*n*=6)	8.5% (*n*=5)	6.8% (*n*=4)
12. Grading can keep students informed about their progress.	27.6% (*n*=16)	63.8% (*n*=37)	3.5% (*n*=2)	3.5% (*n*=2)	1.7% (*n*=1)
13. Grading provides information about student achievement.	8.5% (*n*=5)	61% (*n*=36)	18.6% (*n*=11)	6.8% (*n*=4)	5.1% (*n*=3)
14. Grading documents my instructional effectiveness.	3.4% (*n*=2)	35.6% (*n*=21)	22% (*n*=13)	23.7% (*n*=14)	15.3% (*n*=9)
15. Grading provides feedback to my students.	18.6% (*n*=11)	71.2% (*n*=42)	3.4% (*n*=2)	1.7% (*n*=1)	5.1% (*n*=3)
16. High grades can motivate students to learn.	18.6% (*n*=11)	42.4% (*n*=25)	25.4% (*n*=15)	8.5% (*n*=5)	5.1% (*n*=3)

Table 15 shows participant responses to Survey Items 7-16. These statements were designed to measure how teachers view the usefulness of grades. Based on survey

responses, these statements reflected the highest percentage levels: Ninety percent of teachers agreed or strongly agreed (*n*=53) that "grading provides feedback to my students." Ninety-two percent of teachers (*n*=53) agreed or strongly agreed that "grading can keep students informed about their progress." Seventy-five percent of teachers (*n*=44) agreed that "grading is a good method for helping students identify their weaknesses in a content area." Seventy percent of teachers (*n*=41) agreed or strongly agreed that "grading provides information about student achievement." Eighty-two percent of teachers (*n*=48) agreed or strongly agreed that "grading can help me improve instruction." Seventy percent of teachers (*n*=41) agreed or strongly agreed that "grading can encourage good work by students."

Table 15 illustrates that in addition to using grades to document academic achievement, grades represented a form of feedback for students and teachers. These results suggested that teachers viewed grades as a way of letting students know how well they were doing in meeting learning targets and ranked them according to performance. These data indicated that teachers believed grades are a way to communicate to students where they stand academically and can be used to direct student learning progress by encouraging good work. Not only did they perceive grades as an important source of feedback for how students performed, but their responses also suggested that participants believed that grades could help them gauge the effectiveness of their instructional practices. Table 16 details participant responses to Survey Section 6.

Table 16

Survey Section 6 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
35. Grading is the easiest part of my role as a teacher.	3.4% (*n*=2)	6.8% (*n*=4)	25.4% (*n*=15)	40.7% (*n*=24)	23.7% (*n*=14)
36. It is easy for me to recognize strong effort by a student.	23.7% (*n*=14)	57.6% (*n*=34)	15.3% (*n*=9)	3.4% (*n*=2)	0 % (*n*=0)
37. It is easy for me to assess student achievement with a single grade or score.	3.4% (*n*=2)	6.8% (*n*=4)	13.6% (*n*=8)	50.9% (*n*=30)	25.4% (*n*=15)
38. It is easy for me to rank students in terms of achievement when I am grading.	3.4% (*n*=2)	35.6% (*n*=21)	28.8% (*n*=17)	25.4% (*n*=15)	6.8% (*n*=4)
39. It is difficult to measure student effort.	5.1% (*n*=3)	17% (*n*=10)	23.7% (*n*=14)	45.8% (*n*=27)	8.5% (*n*=5)
40. Factors other than a student's actual achievement on a test or quiz make it difficult for me to grade.	5.1% (*n*=3)	30.5% (*n*=18)	25.4% (*n*=15)	35.6% (*n*=21)	3.4% (*n*=2)

Table 16 shows responses to items in Section 6 of the survey. These statements were included to measure teacher perceived self-efficacy regarding grading. The percentages represented how teachers rated themselves on perceptions of their ability to grade effectively. Almost 76% (*n*=45) disagreed or strongly disagreed with the statement, "It is easy for me to assess student achievement with a single grade or score." The statement that received the highest level of agreement involved the ability to perceive student effort. Eighty-two percent of teachers (*n*=48) agreed or strongly agreed that "it is easy for me to recognize strong effort by a student." Teacher perceptions about the strong

connection between student effort and grades were also reinforced by the high level of disagreement or strong disagreement (55%, *n*=32) with the statement that "it is difficult to measure student effort." Close to 65% of survey participants (n=38) agreed or strongly agreed that grading is one of the more challenging tasks they have as teachers.

Based on the results of Table 16, teachers appeared to acknowledge the challenge of delivering a comprehensive assessment of student learning through a solitary grade. Furthermore, their responses revealed a perception that grading is one of their more difficult professional duties. The data in Table 16 also seemed to indicate that teacher conceptions about academic achievement are influenced by the amount of effort exerted by students. Teachers appeared to feel confident about their ability to measure student effort, which implied that grading may be predicated on each teacher's perceptions of individual effort in the learning process. Interestingly, 36% of teachers (*n*=21) agreed or strongly agreed with the statement, "Factors other than a student's actual achievement on a test or quiz make it difficult for me to grade," while 39% (*n*=23) disagreed or strongly disagreed with this same statement. These findings gave the impression that teachers may be struggling with separating achievement and nonachievement factors when assigning grades. Many of these views were mirrored by teachers during their interviews.

Interviews. The first two interview questions were crafted to delve more deeply into teacher perceptions about what grades represent. Teachers answered questions about their beliefs regarding the purpose of assigning student grades and the relationship between assigned grades and student learning. Table 17 presents the thematic analysis of data produced in response to the first research question.

Table 17

Research Question 1: How Do Teachers Perceive Their Grading Practices?

A priori code	Second Round codes (frequency)	Category	Examples of participant quotes	Theme
Purpose for grading	Learning (10)	Monitor learning	"I believe it's to get an accurate measurement of the learning that the student has made throughout the class."	Grades serve as a primary indicator of the concepts and skills students have learned.
	Learning progress (5)		"I think without grades students don't know where they are on that continuum."	
	Grades reflect content mastery (1)		"So it really should be a notification for them about what…where they are, with what in their learning with what they've learned, you know, the mastery of it."	
	Learning is what is most important (5)		"I feel that at the end of the day, my goal is that the student learns something out of their experience, I don't care what the grade is…so that sort of guides me throughout everything into my grading practices."	
	Motivation (9)	Grades as motivation	"In a way, they motivate the kids."	Grades are a source of student motivation.
	Feedback (6)	Source of feedback	"I think it (grading) provides feedback for the teachers so they can see how their students are progressing and make adjustments as needed."	Grades provide feedback.
Beliefs and values	Responsibility (5)	Preparation for work & life	"Have responsibility, do your homework and you shouldn't have to be told so I'm trying to teach these interdependent skills and independent skills."	Grading practices prepare students for life after high school.
	Students need to be prepared for college (5)		"I'm a big believer in preparing students for college. I'm a big component of that."	

(continued)

A priori code	Second Round codes (frequency)	Category	Examples of participant quotes	Theme
	Students need to be prepared for the real world (3)		"I believe this is more than just a learning institution for academics. This is an institution for teaching them that in the real world, if you don't do something in a timely fashion, you are going to have to suffer the consequences."	

Table 17 details how the codes and categories for Research Question 1 were used to develop themes. The numbers beside each code indicate the frequency with which the code was referenced by teachers during interviews. The two a priori codes used for coding data were purpose for grading and beliefs and values. These codes were taken from the teacher decision-making theoretical framework. "Purpose for grading" was used to describe teacher perceptions about the role and purpose of grading and what grades represent. "Beliefs and values" was used to describe teacher beliefs and values related to grading. A second round of inductive coding resulted in additional codes. Table 17 is not a comprehensive representation of all recorded codes and categories from interview transcripts. Information in this table depicts the most frequently documented data used to formulate themes.

The codes listed repeatedly were in the following categories: monitor learning progress, grades as motivation, source of feedback, and preparation for work and life. Based on the numerous occurrences of these codes and pattern of responses, I identified four themes: (a) Grades serve as a primary indicator of the concepts and skills students have learned; (b) grades are a source of student motivation; (c) grading practices prepare students for life after high school; and (d) grades provide feedback. Each theme was supported by participant responses and coincided with survey findings.

Grades Serve as a Primary Indicator of the Concepts and Skills Students Have Learned. Similar to what was reported through the survey data, the prevalent purpose for grading cited by teachers was to demonstrate student learning. For instance, Teacher 3 drew a direct comparison between grading and getting a blood pressure reading by stating,

> I think that basically grades are a measurement of, you know, of what the student has learned, kind of like, when you go to the doctor, they're taking your weight and blood pressure. It actually gets a measurement of what that student actually learns. Grading is simply a measurement of learning.

This sentiment was echoed by Teacher 7, who asserted, “I believe that grading pretty much gives us an indication as to what students have learned on a particular topic at a particular time.” Similarly, Teacher 5 remarked that she uses grades for “measuring performance and also work completion.” Teacher 6 stated that grades “measure their [students] progress in my class.” Teacher 8 shared, “I believe it's to get an accurate measurement of the learning that the student has made throughout the class.” In addition, Teacher 10 said grades help “gauge [sic] teachers think [students] know and don't know, based on the delivery of lessons and concepts.” Each of these comments indicated that the teachers depend on grades to provide information about the acquisition of learning content and skills.

The responses to Part I of the survey appear to support these statements. More than 30 respondents of the 59 survey participants agreed with statements related to grades being used to judge student progress, measure learning and student achievement, and identify skill deficits; yet while the majority of teachers agreed that grades reflect

learning, some interview participants cautioned that grades may not always reflect learning.

Teacher 1 stated, “I don't believe the grades are reflective of their learning. On average overall.” She shared the story of a student in a past class who worked very hard to learn the content but did not pass the state-mandated end-of-course (EOC) test. Teacher 1 vented her frustration and said, “He did not pass the EOC, according to the state, but in my mind he did; he achieved the goals that I had for him.” Teacher 3 repeated this idea and alleged,

> I think that sometimes grades don't truly reflect what a student is or is not capable of. You have students that don't do the little things but are smart enough to pass the test. And then, on the contrary, you have students who do all the little things, but then struggle with taking tests.

Teacher 4 also acknowledged that grades may not always represent a comprehensive picture of student learning. He claimed,

> Well, in a perfect world, it's a very tight integration if they're getting…if they're getting high grades, then I have a lot of confidence and they have a lot of confidence that they can do what I'm asking them to do. I think there's some factors that get in the way of that tight integration.

Much like what the survey data indicated, a large amount of teacher interview feedback focused on grades as a representation of student learning. The quantitative and qualitative data seemed to indicate that teachers perceived grades as a tool to provide data about what students know and are able to do. Teachers appeared to share similar ideas about the purpose, meaning, and value given to grades. Interview findings were fairly

consistent regardless of the participants' content areas and years of experience; however, two teachers recognized that the link between grades and learning may not always be clear-cut. Teacher 1's anecdote revealed that the summative evaluation of learning provided through the EOC did not align with her professional judgment and what she witnessed with respect to the student's learning growth. Teacher 3's comments implied that the presence of other grading criteria may interfere with grading accuracy. Her statement gave credence to the idea that there may be other factors that contribute to grading inaccuracy and make it difficult for teachers to assign grades. Further analysis of the data provided evidence that grades are used by teachers to do more than document student learning.

Grades Are a Source of Student Motivation. Another recurrent theme closely tied to the TPGP survey results was the idea that grades are a source of motivation for students. Seventy percent of survey respondents (n=41) either agreed or strongly agreed that grading can encourage good work. Sixty-one percent (n=36) either agreed or strongly agreed that high grades can motivate students to learn. This viewpoint was mentioned repeatedly in teacher interviews.

For example, Teacher 2 remarked on the practice of putting grades in the gradebook and said, "There are definitely good and bad [sic] about putting those numbers in there, in a way they motivate the kids." Teacher 5 also felt very strongly about using grades as a motivator. She argued that they are necessary because,

> Generation Z has different motivations that are not like the other ones prior to that and if you don't award the things that they don't necessarily willingly want to do, you're not going to get it. They don't…I mean they don't think that they have to

> pay attention or that they have to put their phones up. So, if it's something that you want them to do you are going to have to give them some small grade for that.

Teacher 11 shared her feelings about using daily grades to motivate students and explained, “They have a grade every day and one reason I do that is because more kids turn in their work consistently when I do it that way.” Both of these statements imply that grades may be used as positive reinforcement for desirable behavior. Teacher 5’s specific use of the word “award” in reference to getting students to do something they may not be inclined to do on their own is evidence of a carrot-and-stick approach to grading that focuses on rewards and punishments (Pink, 2013; Quinn, 2013). Teacher 11’s remarks about recording grades every day are indicative of her belief that grades are beneficial and necessary. The assumption seems to be that without grades, students would not complete their work.

Teacher 6, the single novice in the interview group with less than 5 years of experience, offered an opinion that differed from the other interview participants. When discussing his reluctance to enter low grades on formative assessments, he declared, “Okay, so now what I've done is I've crushed that student’s self-esteem.” Although a considerable number of teachers reported on the survey that high grades motivate student learning, this comment implied a belief that grades may be tied to student feelings of self-worth, and low grades may potentially inhibit student motivation.

Survey results and interview data from participants conveyed the idea that teachers felt that it was acceptable to use grading as a way to motivate students by using it to manage student behavior. These findings suggested the perception that grades are

symbols of student performance and that students may be driven to pursue symbols deemed to have the highest value. The overall expectation seems to be that grades may motivate students to learn when they are used as an external reward. Along with the perceptions that grades serve as indicators of learning and motivational incentives, teachers signaled their belief that grades play a role in helping students learn responsibility.

Grading Practices Prepare Students for Life After High School. A third theme that emerged as a common thread woven throughout teacher interviews was a concern with making sure students are prepared for college and "real life." Teacher 3 explicitly stated, "I strive to make it rigorous, and you know, hold my students as accountable as I can because I know that prepares them for the real world." Teacher 8 was clearly in agreement when discussing her need to give some type of grading penalty for late work and explained,

> If you showed up to your job on time you get full pay, if you show up to your job three hours later, you lose those three hours. And I feel like the classroom should be what sets them up for the real world outside of school.

Both of these perspectives may be explained by a belief system centered on accountability, responsibility, and work ethic, which were codes referenced in other interview transcripts.

Teacher 6 shared similar thoughts when he explained why he takes off points for late work. His experience as a student was the impetus for his late work policy, and he stated, "I want my students to learn how to plan. I was a terrible planner in high school. I had to learn in college the hard way." This statement seems to stem from the notion that

he feels responsible for preparing students for what they will face after matriculating from high school and that taking off points for late work is his way of helping students.

A large number of survey respondents (82%) confirmed that it was easy for them to recognize student effort. The statements made by Teachers 3, 6, and 8 appear to reflect a mindset that equates the amount of effort exerted by students with their potential for future success. The survey findings related to effort and interview feedback suggested that teachers may feel a sense of obligation to teach students skills and behaviors that are not attached to academic skills. These findings revealed that teachers may perceive their grading practices as a way to help students learn how to be successful and responsible. Finally, a comparison of survey and interview data showed that teachers regard grades as feedback for students.

Grades Provide Feedback. Utilizing grades to provide feedback received the highest rating on the TPGP survey, with 90% of respondents agreeing with the statement, "Grading provides feedback to my students." This opinion surfaced during several interviews. Teacher 2 shared that she considers grades as "immediate feedback and it shows how they're doing." Teacher 8 also concluded, "I believe that the grading and the feedback is necessary right away to actually have an impact." These remarks indicated that these two English teachers felt that it was important to assign grades to give students feedback on individual assessments. By qualifying their comments with the terms "immediate" and "right away," these teachers also pointed to timing as an important factor to consider when grading for feedback. Teacher 9 also warned that grading feedback must be immediate in order for it to be effective. He seemed to sympathize with students having to deal with what he referred to as "grade dumping" by teachers at the

end of the grading quarter when grades are finalized and it is too late to take action. According to this teacher, grading provides "great feedback as long as it's provided in a timely manner and provides the student and teacher an opportunity to discuss what those grades actually mean."

Contrary to the survey data, two of the social studies teachers took a different approach to restricting feedback to what is assigned in the gradebook. Teacher 7 said that his feedback "may not necessarily go into the gradebook but they [students] may receive some type of feedback." This statement suggested that rather than discounting the need for feedback, Teacher 7 does not believe that all feedback has to be documented as a grade. Similarly, Teacher 6 felt that "when you are giving students feedback that is not graded it can be just as powerful as a summative grade in some cases." He seemed to think that feedback does not have to be quantified for it to be useful and saw the potential worth of using feedback to improve student learning.

Research Question 1 Summary

Research Question 1 revealed teacher overall perceptions of their grading practices. Survey data showed that teachers perceived grading as a tool for monitoring student learning and measuring progress. Interview feedback from teachers supported this finding. The survey responses suggested that teachers place significant value on student effort. Taken together with interview data, these results suggested that there may be an association between the importance teachers place on effort and the perception that their grading behaviors help prepare students for the responsibility and accountability needed to be successful after high school. Survey and interview data reinforced the finding that teachers appear to view grades as a form of motivation for students to produce good work

and encourage effort. Furthermore, survey and interview findings gave the impression that teachers perceive grades as a way to communicate learning feedback to students.

Research Question 2: What Factors Do Teachers Report That They Consider When Assigning Student Grades?

The second research question aimed to determine factors teachers consider when they grade student work. Teachers were asked to respond to survey statements and interview questions to determine specific criteria and/or grading policies they consider when assigning grades.

Survey. The remaining survey items on the TPGP were devised to determine the inclusion of aspects such as effort, ability, and participation in teacher grading practices. Items in Survey Sections 3 and 4 and the close-ended items in Part II of the TPGP survey were used to answer the second research question. Table 18 shows the participant responses to Items 17-21 in Section 3 and Items 30 and 31 from Section 5.

Table 18

Survey Sections 3 and 5 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
17. I consider student effort when I grade.	25.4% (*n*=15)	50.9% (*n*=30)	13.6% (*n*=8)	10.2% (*n*=6)	0% (*n*=0)
18. I give higher report card grades to students who show greater effort.	6.8% (*n*=4)	25.4% (*n*=15)	27.1% (*n*=16)	32.2% (*n*=19)	8.5% (*n*=5)
19. I will pass a failing student if he or she puts forth effort.	5.1% (*n*=3)	32.2% (*n*=19)	34% (*n*=20)	20.3% (*n*=12)	8.5% (*n*=5)
20. Grades are based on students' completion of homework.	5.2% (*n*=3)	32.8% (*n*=19)	27.6% (*n*=16)	24.1% (*n*=14)	10.3% (*n*=6)
21. Grades are based on the degree to which students participate in class.	3.4% (*n*=2)	32.2% (*n*=19)	20.3% (*n*=12)	32.2% (*n*=19)	11.9% (*n*=7)
30. If a student fails a test, I will offer him/her a second chance to take the test.	35.6% (*n*=21)	44.1% (*n*=26)	15.3% (*n*=9)	3.4% (*n*=2)	1.7% (*n*=1)
31. I often give students opportunities to earn extra credit.	17% (*n*=10)	18.6% (*n*=11)	18.6% (*n*=11)	32.2% (*n*=19)	13.6% (*n*=8)

The survey items in Table 18 focused on student effort and participation. Interestingly, although nearly 76% of teachers (*n*=45) reported that they agreed or strongly agreed with considering effort as a grading factor, only 32% (*n*=19) agreed or strongly agreed with the statement that they give higher report card grades to students who show greater effort. Additionally, teacher responses to the statement, "I will pass a failing student if he or she puts forth effort," are in direct contradiction to their answers

about considering effort when assigning report card grades. A combined 37% (*n*=22) either agreed or strongly agreed with using student effort as a criterion for course passage or failure. These percentage numbers contrasted with the nearly 41% of teachers (*n*=24) who disagreed or strongly disagreed with the idea of incorporating effort into report card grades. There was an equal number of teachers (32%, *n*=19) who agreed and disagreed with the statement, "Grades are based on the degree to which students participate in class." This stark difference in responses implied teachers may have conflicting feelings about including participation in grades. Eighty percent of teachers (*n*=47) agreed or strongly agreed with the statement, "If a student fails a test, I will offer him/her a second chance to take the test." Forty-six percent of teachers (*n*=27) disagreed or strongly disagreed with the statement, "I often give students opportunities to earn extra credit," which indicated that extra credit and bonus points are not grading factors favored by nearly half of the participants.

The contradictory percentages regarding grades and effort suggested that the way teachers assign grades based on effort may be dependent on the timing and type of assessment being graded. These responses indicated that some teachers may not be comfortable considering effort when they are assigning end-of-quarter or semester report card grades. The data also appeared to indicate that teachers were more prone to offer students second chances at learning but were not in favor of offering students extra credit. Table 19 shows teacher responses related to grading and student ability.

Table 19

Survey Section 4 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
23. I consider student ability in grading.	10.2% (*n*=6)	59.3% (*n*=35)	15.3% (*n*=9)	13.6% (*n*=8)	1.7% (*n*=1)
24. Grades are based on students' problem-solving ability.	1.7% (*n*=1)	54.2% (*n*=32)	28.8% (*n*=17)	10.2% (*n*=6)	5.1% (*n*=3)
25. Grades are based on students' critical thinking ability.	5.1% (*n*=3)	59.3% (*n*=35)	25.4% (*n*=15)	6.8% (*n*=4)	3.4% (*n*=2)
26. Grades are based on students' independent thinking ability.	3.4% (*n*=2)	57.6% (*n*=34)	22% (*n*=13)	13.6% (*n*=8)	3.4% (*n*=2)
27. Grades are based on students' collaborative learning ability.	0% (*n*=0)	45.8% (*n*=27)	34% (*n*=20)	15.3% (*n*=9)	5.1% (*n*=3)
28. Grades are based on students' writing ability.	5.1% (*n*=3)	47.5% (*n*=28)	30.5% (*n*=18)	11.9% (*n*=7)	5.1% (*n*=3)

The percentages in Table 19 represent the ratings selected by survey participants for statements that signify the extent to which student ability factors into the teacher grading process. More than 69% of teachers (*n*=41) agreed or strongly agreed that they consider student ability when grading. Furthermore, the results obtained from this segment of survey data affirmed that a large proportion of teachers agreed or strongly agreed with the following statements: "Grades are based on students' critical thinking ability" (64%, *n*=38); "Grades are based on students' independent thinking ability" (61%, *n*=36); and "Grades are based on students' problem-solving ability" (56%, *n*=33). The percentage of teachers who agreed or strongly agreed with statements regarding assigning

grades based on students' collaborative learning ability and writing ability ranged from 11 to 18 percentage points lower.

These data suggested that teachers prioritize individual student ability when grading. The higher responses for statements dealing with critical thinking, independent thinking, and problem-solving implied that teachers may be more prone to make judgments about students' learning abilities or aptitudes based on grades. Table 20 shows responses to an item in Part II of the survey concerning grading factors teachers consider when assigning final grades.

Table 20

Survey Item 41 (N=59)

	Formal achievement measures	Student effort/ hard work	Student ability	Classroom behavior	Attendance/ participation	Other
41. What factors do you consider when you assign final grades for a marking period or semester?	32.8% (*n*=57)	25.3% (*n*=44)	18.4% (*n*=32)	6.3% (*n*=11)	15.5% (*n*=27)	1.7% (*n*=3)

Table 20 shows teacher responses to a survey item inquiring about specific factors included when considering final grades either for a marking period or semester. Participants were asked to choose all responses that applied. For Item 41, participants were also given an "Other" answer option for which they could submit their own responses. Three of the 59 participants selected this option and entered the following responses: "Students in my class have completion grades and accuracy grades. Most of their minor assignments are completion grades, most of the major grades are

accuracy/rubric related"; "the student's IEP"; and "student growth."

Table 20 showed that teachers valued formal achievement measures (quizzes, tests, etc.) as the prevailing factor for assigning marking period or semester grades. These results were strikingly different and appeared to conflict with previous survey responses for Survey Items 17 and 23 pertaining to effort and ability: 76% of teachers (*n*=45) agreed or strongly agreed that they considered effort when grading, and 69% of teachers (*n*=41) agreed or strongly agreed that they considered ability. The second highest percentage for Survey Item 41 was student effort/hard work. Student ability was selected by 32 teachers, and 27 teachers chose attendance/participation as grading factors. These numbers coincided with data from Survey Item 40 which showed that 36% of teachers (*n*=21) agreed or strongly agreed with the statement, "Factors other than a student's actual achievement on a test or quiz make it difficult for me to grade." These data signaled that student effort was an important grading factor for teachers when assigning grades. Table 21 presents teacher responses to two items in Part II of the survey related to the frequency with which quizzes and tests are recorded as grades.

Table 21

Survey Items 42 & 44 (N=59)

Survey item	At least once a week	About once every 2 weeks, but not every week	About once a month	Sometimes, but less than once a month
42. How often do you give quizzes that count for a grade?	32.7% (*n*=19)	53.5% (*n*=31)	6.9% (*n*=4)	6.9% (*n*=4)
44. How often do you give major tests or exams that count for a grade?	1.7% (*n*=1)	44.1% (*n*=26)	45.7% (*n*=27)	8.5% (*n*=5)

Table 21 reveals the degree to which quizzes and tests or exams are factored into grading. Fifty-four percent of teachers (*n*=31) reported that quizzes are recorded as a grade bi-weekly compared to only 44% of teachers (*n*=26) who reported counting tests and exams as a grade during the same time period. Thirty-three percent of teachers (*n*=19) also noted recording quiz grades at least weekly.

In general, the percentages show that quizzes were routinely counted for a grade more frequently than major assessments. These data suggested that teachers rely on quizzes to regularly document student learning progress in the form of a grade. Table 22 shows how teachers responded to a survey item in Part II dealing with minor assignments.

Table 22

Survey Item 43 (N=59)

Survey item	About every day	Several times each week, but not every day	About once a week	About once every 2 weeks, but not every week	About once a month	Sometimes, but less than once a month
43. How often do you give minor assignments that count for a grade?	37.3% (*n*=22)	45.8% (*n*=27)	13.6 % (*n*=8)	3.4 % (*n*=2)	0 % (*n*=0)	0 % (*n*=0)

Table 22 shows how teachers answered a survey item about the frequency with which they graded lesser learning tasks. Minor assignments may be defined by teachers as homework or other activities separate from quizzes and tests. A total of 83% of teachers (*n*=49) shared that these minor assignments are counted either daily or multiple times a week. These data corresponded with what teachers reported about counting

quizzes as grades and implied that formative assessments are a major grading component. These findings indicated that teachers regularly recorded grades based on an assessment of student practice during particular moments in time.

It was apparent from the survey data that study participants seemed to regard student effort and ability as critical factors in the grading process; however, there were marked differences among respondents concerning grades and participation, suggesting that teachers may have differences of opinion about including nonacademic behavioral factors such as participation when grading. Survey results verified the idiosyncratic nature of participant grading behaviors. An analysis of qualitative interview data provided further insight into grading factors and practices.

Interviews. During teacher interviews, I posed questions with the intent of gaining understanding about the factors that might influence their grading practices and behaviors. For example, I asked questions such as, “How do you feel about grading homework” and “How do you feel about grading formative assessments?” Table 23 shows the codes used to organize the teacher feedback.

Table 23

Research Question 2: What Factors Do Teachers Report That They Consider When Assigning Student Grades?

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
Grading practices	Effort (9)	Grading factors	"You know and then also did you give your effort and I guess that's kind of like my recurring theme, what was your intent with the effort?"	Student effort is an important factor in grading.
	Takes away points for late work (4)		"I feel it may be necessary sometimes because you know, students can be motivated. You know, if they're not completing their assignments on a regular basis and they see that they're gonna lose points for not doing it, and it may be a motivator for them to complete the tasks on time."	
	Grades homework for completion (4)		"Honestly, I stopped, I gave up on homework a long time ago. Um, partly, because only a small fraction of the students actually do it and then if they're doing it, it's usually copied or half done. But in the rare cases that I do is mostly so for completion, instead of accuracy."	
	Doesn't assign homework (4)		"Well, here's the funny thing. I don't have homework. "	
	Grades homework for completion and accuracy (3)		They need to get feedback for completion and on some things accuracy. But yeah, I think it should count for something."	

(continued)

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
	Exclusion of behavior in grading (8)		"You shouldn't be using grades as a tool to punish students or to get them to modify their behavior."	Behavior is a grading factor disputed by teachers.
	Grading formative assessments (8)	Formative assessment	"So with something really relatively short, it could just be on completion, but it was something that took them a lot of time to do then, yeah, accuracy."	Grading formative assessments is a common practice.
Decision-making rationale	Approves of retakes/redos (8)	Second chances	"If they are concerned with grades and are not getting the desired grade and would like to retake or redo an assignment to show that or to relearn the material, I'm all for that."	Teachers support retakes/redos.
	Believes in retakes/redos as second chances for learning (4)		"I can't think of anything where it's a one-shot, other than like, current year of an athletic tournament, Jeopardy, Wheel of Fortune, or like a game show…most things in life… like I failed my driver's test a first time and I failed it a second time and so I sort of see it like that."	

Table 23 shows codes documented in the transcripts concerning factors integrated into grading practices. The a priori codes used were grading practices and decision-making rationale. "Grading practices" was used to indicate specific factors included in the grading process. "Decision-making rationale" was used to describe the explanations provided by teachers for how student work is evaluated and graded. Multiple inductive codes were noted; however, the regularly recurring codes from which themes emerged are shown in Table 23.

Examination of the interview data further validated the wide variation that exists within teacher grading methods. During the interviews, teachers described individual grading procedures and how they handle homework, credit recovery in the form of retakes/redos, formative assessments, and extra credit/bonus points. Per district policy, teachers assign grades based on predetermined categories and point ratios; however, the district does not dictate how individual schools, departments, and teachers should manage how they assign grades to student performance. The following categories were used to classify the codes: grading factors, formative assessment, and second chances. From these categories, recurring codes consistently reported by teachers included effort, grading formative assessments, approved retakes/redos, and exclusion of behavior in grading. The four themes that emerged from these codes are explained below in conjunction with survey data.

Student Effort is an Important Factor in Grading. TPGP survey results demonstrated that student effort is a factor that plays a significant role in teacher grading. Student effort/hard work received the second highest percentage (25%, *n*=44) of responses as a factor teachers consider when they assign final grades for the end of a grading quarter or semester. This idea was repeated multiple times in interviews and sparked the most ardent discussions. For example, Teacher 3 described how much student effort is tied to her perspectives on other grading factors such as retake opportunities, grading formative assessments, minimum grading, taking away points for late work, and awarding extra credit and bonus points. She vehemently shared that the amount of effort a student exerts should determine whether they should be given a chance to recover credit. Prior to adjusting her instruction to help a student improve their learning

performance, she contemplates the student's attempt at learning:

> Did the student, give it their best effort, you know, was there maybe something I could have done differently to help them get a better grade? But you know when the student doesn't do what they're supposed to do in the beginning, that's the only time I really have a problem with it [retake/redo].

Before deducting points for late work submissions, she weighs student effort into her decision and insisted,

> And again, if you gave me a good effort and you had some type of personal issue going on, I don't mind accommodating that. But if you're just sitting there and not doing it again, not doing what you're supposed to do then, no I don't.

Effort was also mentioned as a major determinant for how teachers viewed assigning a minimum score, as required by the district, at the end of the marking period and granting students bonus points and extra credit. Teacher 8 felt that entering a minimum grade for students who numerically fall below the 40 threshold could lead to a lack of effort from other students. She explained,

> I feel like it deters the kids that actually tried and I've actually heard them say, well, if I'm gonna get a 40 for doing nothing or 40 for actually trying, what is the purpose? And so, I think it deters the other students from actually trying to accomplish the goal.

Likewise, Teacher 5 felt that assigning grades based on such a policy

> gives a false sense of what a student actually has to do to pass because a lot of kids go well it's a high F, but it's still an F. And I think that we have given children, some idea that a 40 is better than an 18 when grade-wise using the

> uniform grading scale they're both zeros.

Teacher 10 further described a collective sense of frustration among her colleagues about having to enter a minimum score despite a perceived lack of student effort: “They [students] are receiving something they don't deserve. And it minimizes what they [teachers] do every day in the classroom.”

In one case, a teacher said she regularly awards bonus points to students solely due to effort. According to Teacher 8,

> I do it all the time. I tell them like if we're doing a project-based assignment like something that's artistic or hands-on, the more effort they do, I'll give them extra credit points. Or I'll add an extra formative that is an extra practice for that unit and since they take the extra time to do it I believe they deserve the extra credit points.

Teacher 5 drew a similar comparison between extra credit and employee bonuses:

> I mean because we have bonuses for like in the real world, there are bonuses for going above and beyond, there are bonuses when you work extended hours, so I think it's realistic to give children the opportunity and it's open to everybody.

Teacher 11 also shared that although she does not make giving students bonus points a regular practice, she does believe it can give a boost to students who tried to complete the work: “I gave them a reading guide this semester and five kids turned it in on time. I gave them all five extra points. You know, I was just…, they had to do some work on it.” Teacher 2 did not embrace awarding bonus points but admitted to relying on it to encourage student effort: “The bonus points, I don't love. I don't love stuff like I'm gonna give you points for bringing Kleenex…but believe it or not, that's helped a lot. They're

motivated by that, and I feel okay about that."

Teacher interview responses revealed teacher opposition to the idea that students "get something for nothing" and that effort may also be connected to how some teachers grant extra credit and bonus points. Comments cited during interviews demonstrated a propensity for participants to use effort and bonus points as a "fail safe" for students who may need a grading boost.

This feedback appeared to contradict teacher responses regarding assigning grades to reflect student acquisition of knowledge and skills as indicated on the survey. Although more than half of the 59 survey participants agreed that they use grades to measure progress, learning, and achievement, some of the interview statements revealed inconsistency in their beliefs and practices.

Grading Formative Assessments is a Common Practice. Grading formative assessments appear to be a standard grading practice for study participants. Fifty-seven teachers reported in the survey that the primary factor they consider when assigning final grades is formal achievement measures (e.g., tests and quizzes). Additionally, 53% of teachers (n=31) shared on the survey that they count quizzes for a grade at least once every 2 weeks but not weekly. Forty-six percent (n=27) reported that minor assignments are given for a grade several times a week but not daily. In contrast, 46% (n=27) reported that they administer major tests once a month, and 38% of teachers (n=22) agreed or strongly agreed that homework is graded for completion.

These grading behaviors are likely explained by teacher adherence to district grading guidelines about the minimum number of minor and major assignments high school teachers should enter into the gradebook weekly. When asked about formative

assessments, Teacher 9 took time to describe the methodical process he devised to make sure he and his students could track assigned work that was recorded in the gradebook on a dry-erase board in his classroom. He does not like grading formative assessments but feels strongly that it is "necessary to get students to commit to the practice needed to meet proficiency for the summative assessments." This view about grading formative assessments was echoed by Teacher 2, who stated, "I grade them because that motivates them to do it."

Two other teachers expressed during their interviews that formative assessments should be graded for either accuracy or completion. As Teacher 5 put it, "They [students] need to get feedback for completion and on some things accuracy. But yeah, I think it [formative assessment] should count for something." Commenting on formative assessments, Teacher 7 shared a similar thought about how he grades such assignments and said,

> The majority of time I'd say is based on pretty much accuracy. But then again, you know, based on, you know what the test was. So, with something really relatively short, it could just be on completion, but if it was something that took them a lot of time to do then, yeah, accuracy.

This point of view was not unanimous among all interviewees. When asked about formative assessments, Teacher 3 pointed out that grading them is not always advisable because students are "still forming their ideas" and there is a chance they may demonstrate an improvement in learning performance. When referencing homework as a form of formative assessment, one teacher said, "I don't believe that homework should be graded or if it is I think it should be low stakes. I think homework is supposed to provide

like a safe opportunity for kids to make mistakes." Teacher 4 was particularly critical of grading formative assessments. He acknowledged that having multiple formative assessment grades may help counterbalance low scores on more heavily weighted assignments; however, he decisively stated, "Formative assessments should only be used for the teacher's information purposes. They shouldn't be included in the final grade…the only real grades should be summative performance."

Teachers confirmed that formative assessments, primarily in the form of minor assignments and quizzes, are fundamental to their grading practices; however, the interview comments implied that teachers are using formative assessments for different purposes. Teacher responses indicated that they may be depending on formative assessments to provide students with practice and feedback on learning in addition to using them as an accountability measure. Another grading practice teachers were ambivalent about was retakes/redos.

Teachers Support Retake/Redos. More than 53% of survey respondents (*n*=31) agreed or strongly agreed that grades are based on a student's improvement. These data implied that some teachers believe that grades reflect learning growth. When questioned about retakes/redos, teachers expounded on allowing students learning "do-overs."

It was apparent during the interviews that participants felt compelled to follow the credit recovery policy as outlined by the district and allow students to retake/redo an assignment to raise their grades, and there were several teachers who voiced their clear support for allowing students to complete retakes. For example, Teacher 9 said, "I'm fine with the students redoing or retaking assessments. Again, I think learning is a process." Teacher 7 enthusiastically stated,

> I think it's an excellent idea. That's something I've always done. Because like I said, you know, the grades reflect pretty much what they have learned at a particular time. But you know, a lot of factors go into test taking and how a student performs. So there may be something that they have been dealing with you know, previous before taking the tests and may have impacted the ability to do well. So let them retake. It may mitigate in those things that they have been dealing with you know taking a test quiz.

Teacher 4 also believes in offering retakes/redos and asserted,

> I feel really good about that…. In fact, I guess the best thing I've done this year with grading and with assessing is that students will take a quiz, a translation quiz in X, and then usually, there's some errors in it. And in the past, what has happened is that grade is like locked in, you know they get a 75 or an 80 because there's errors. But I think the best thing I did this year is that I have a system where I almost immediately, or maybe the next class period at the latest, students can sit down with me and one-on-one we correct those errors.

For Teacher 11, the potential for learning growth makes allowing retakes/redos worthwhile for students. She maintained,

> I think you learn a lot by redoing something, you know? You know, back in our day, or my day when we did things, we turned in rough drafts and we got them back and we fixed them and maybe we had two or three of those. And so, we were learning the whole way about how to do it. And, you know, we don't really do things that way anymore, but I think redos are very important.

This interview feedback suggested that some teachers may subscribe to the idea

that learning does not happen on a set schedule and that there may be circumstances that interfere with student performance. These teacher responses seemed to express the belief that despite receiving a low score on an assessment, student learning has still occurred. Teachers 7, 4, and 11 appeared to support retakes based on the belief that students should be given a second opportunity to show what they know; however, their responses also demonstrated a difference in their beliefs about the purpose of retakes. Teacher 7 implied that his support of allowing retakes was an attempt to let students “course correct” if they performed poorly due to external factors that may have negatively impacted their grades, yet Teachers 4 and 11 seemed to be more focused on the potential for learning growth that may be demonstrated by permitting retakes/redos. Their grading practices appeared to be in keeping with the notion that they would rather ensure that students learn the content than settle for mediocre work.

A small number of teachers interviewed were not opposed to retakes/redos but had concerns about students focusing on recovering the points and not the learning content. Teacher 9 shared, “I don't mind students retaking assessments, provided that between the first time they took the assessment and the next time, there's some type of remediation that took place.” He viewed retakes/redos as a second chance at learning, which is something he does not recall receiving when he was a student. Teacher 8 alluded to an identical belief: “I think there should be something in between to help with the learning so that it can actually fix the problem. So, redo with some stipulations.” Teacher 5 bluntly declared that retakes/redos “sound good” in theory but are not practical because students should not expect the same treatment in an academically competitive college environment.

Irrespective of their content areas, the majority of teachers interviewed appeared to embrace the prospect of the retakes and redos as opportunities for relearning to occur and seemed to believe that students should be given second chances to show what they know. Nonetheless, the fact that some teachers expressed reservations about what happens between the original assessment and the retake suggested that despite the support of retakes/redos, their concerns may affect the way in which they implement a redo policy. For example, Teachers 8 and 9 expressed views consistent with teachers interested in making sure that students maximize retakes/redos by providing some type of learning intervention so they may learn from their errors, yet Teacher 5's comment that retakes/redos are "good in theory" hinted at superficial support for retakes/redos in accordance with her perception that the purpose for grading is to prepare students for life after high school.

Behavior is a Grading Factor Disputed by Teachers. When asked to choose from a list of factors on the TPGP survey that they consider when grading, 11 teachers selected classroom behavior (positive or disruptive) as a factor they consider when they assign final grades for a marking period or semester. During their interviews, several teachers adamantly denied using grades to punish student behavior. For instance, Teacher 7 said, "I wouldn't ever use grades as a disincentive, you know, to behaving in class." Other teacher reactions were similar in nature. For example, Teacher 4 explained, "I really try to separate that out. I try to keep my only concern as far as their grade being whether they can perform the translation of X. I try to handle behavior issues as something totally separate." Teacher 8 replied, "No, I do not believe behavior should be added into the point system whatsoever," while Teacher 10 stated simply, "This is high school. We don't

do that." Teacher 9 captured the same idea: "Grades should be an indication of how proficient a student is with a certain educational task, not just turning assignments in. I don't think that grades should be used as a punitive thing." This teacher appeared to reference the idea that some teachers may punish students for behaviors by including factors such as participation and effort in the grading process, rather than focusing on whether students met the learning objectives.

During the interviews, teachers were asked to clarify if they considered positive *or* negative student behaviors as grading factors. Survey and interview responses suggested that teachers clearly differentiate between the two and consciously avoid using grades punitively. Teachers do not appear to consider attendance, participation, effort, and timeliness as nonachievement grading factors associated with behavior. These results demonstrated that their grading behaviors may not always align with their stated beliefs about the purpose of grades and how they are used to document the acquisition of student knowledge.

Research Question 2 Summary

Research Question 2 was designed to uncover the multiple factors teachers consider when assigning grades. It is apparent from the survey data that teachers regard student effort and ability as critical factors in the grading process. Similar to what teachers reported in the TPGP survey, interview data supported the idea that teachers consider student effort to be a significant factor in the grading process. There also appeared to be conflicting survey results among teachers concerning grades and participation as the level of agreement and disagreement was equally divided among survey participants. Survey data demonstrated that formal achievement measures and

student effort are meaningful grading factors for teachers. Survey and interview findings signaled that teachers do not consider behavior a significant factor and are opposed to wielding grades as a punishment tool. The survey data suggested that study participants view behavior as a nonachievement factor that is not included in their grading process, and interview responses overwhelmingly confirmed survey responses. Teachers also appeared to be strong proponents of offering students second chances at learning by allowing them to redo/retake assignments. This finding was supported by survey data that showed 80% of teachers (*n*=47) agreed or strongly agreed with retakes/redos. One area where survey and interview data diverged was regarding the grading practice of awarding extra credit and bonus points. Although 46% of teachers (*n*=27) disagreed or strongly disagreed with this grading behavior, interview participants shared that in some cases, they do grant students extra credit/bonus points. Interview comments also exposed disparate feelings among teachers about the circumstances warranting extra credit and bonus points.

Research Question 3: How Do Teachers Describe the Evolution of Their Grading Practices?

The next research question was designed to analyze how teachers form and develop their grading practices and how those behaviors may change over time. Survey information and interview data focused on answering Research Question 3.

Survey. Two of the TPGP survey items were related to teacher grading habits. Teachers were asked to choose a rating of strongly agree, agree, neutral, disagree, or strongly. Table 24 shows teacher responses to Survey Questions 33 and 34.

Table 24

Survey Items 33 and 43 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
33. I have my own grading procedure.	11.9% (*n*=7)	30.5% (*n*=18)	23.7% (*n*=14)	27.1% (*n*=16)	6.8% (*n*=4)
34. I often confer with my colleagues on grading criteria.	10.2% (*n*=6)	40.7% (*n*=24)	20.3% (*n*=12)	15.3% (*n*=9)	13.6% (*n*=8)

The data in Table 24 show that nearly 43% of teachers (*n*=25) agreed or strongly agreed that they have their own procedure for grading student work. This rating represented the highest number of responses. A little more than 34% of teachers (*n*=20) disagreed or strongly disagreed with this statement. Approximately 24% of teachers (*n*=14) selected a neutral response. These data suggested that in addition to following district and/or school policies, teachers may also rely on their own grading knowledge and experience to evaluate student work.

More than 51% of teachers (*n*=30) agreed or strongly agreed that they often confer with colleagues on grading criteria. There is a much higher level of agreement for this statement compared to the other rating responses. Slightly more than 20% (*n*=12) submitted a neutral response to this question. Twenty-nine percent of teachers (*n*=17) disagreed or strongly disagreed. These survey data indicated that colleagues may be a meaningful influence on teacher grading behaviors. Interview data further validated the survey findings.

Interviews. Teacher interview data included a discussion about the progression of their grading behaviors and experiences, which may have influenced them to change their

perspectives or practices. The interviews centered on learning more about the sources of teacher grading knowledge and experience and possible shifts in practices. I also wished to find out what may have influenced changes in how teachers assign student grades. I asked teachers questions about how they acquired the practices they use to grade student work and how those grading practices may have changed since they began teaching. Table 25 details the codes used to analyze teacher responses and synthesize themes.

Table 25

Research Question 3: How Do Teachers Describe the Evolution of Their Grading Practices?

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
Teacher experiences	Change in grading practices (13)	Evolution	"I've kind of let go of those beliefs about if they don't do an assignment that they're stupid kids or that they don't know the information and I've just had experiences where that is definitely not the case. That's changed my thoughts."	Teacher grading behaviors evolve due to professional and personal experiences.
	Experiences with students (2)		"I got to become part of students' lives and get to know them. You understand the circumstances… and to think about my own, you know, education journey, it's like yeah…let me lay off that a little bit."	
	Past experiences as a student (11)	Influence	"The way we grade now is not how I would have been graded in high school."	Teacher grading behaviors are influenced by past experiences as students.
Teacher knowledge	Colleagues (7)	Peers	"From other teachers when I came into the picture, yeah."	Teachers rely on colleagues for direction on grading practices.

(continued)

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
	No preservice preparation on grading (4)	Training	"I don't know that they really teach you how to grade."	
	Professional development (2)		"We did a three-day session I think… with him when I was at X High School, it was like just, you know, everything in your gradebook."	
	No professional development (2)		"Nothing specific as far as PD or research."	
	Technology (3)	Technology Tools	"I took what I learned from her and what I learned with the technology aspect and I put those together and that's how I came up with my grading and how I like to do it."	

Table 25 illustrates the ways in which teachers described the source of their grading practices and the various elements that have influenced them. The a priori codes used to organize the codes were teacher knowledge, teacher experiences, external factors, and classroom realities. Teacher knowledge was used to describe any training or professional development that contributed to teacher knowledge about grading practices. Teacher experiences was used to describe any experiences that influenced the development of grading practices. External factors were used to describe any factors teachers believed impacted grading behaviors. Classroom realities was used to describe

any aspects within the school/classroom environment that teachers cannot control or avoid that may affect grading.

A second coding cycle yielded a long list of codes; however, Table 25 shows the codes used to identify patterns and themes that surfaced from the interview data. The following categories were created from those codes: evolution, influence, peers, training, and technology. The most frequently recorded codes were change in grading practices, past experiences as a student, and colleagues. I developed three themes from the interview data:

1. Teacher grading behaviors are influenced by past experiences as students.
2. Teachers rely on colleagues for direction on grading practices.
3. Teacher grading behaviors evolve due to professional and personal experiences.

Teacher Grading Behaviors are Influenced by Past Experiences as Students. Teachers often mentioned the way they were treated by instructors when referring to their own grading practices. More than half of the 11 interview participants connected their school experiences to grading practices. A clear example is Teacher 4 who stated, “When you start out right out of college without the professional development, you just fall back on what you did as a kid. What you remember about being graded.” Similarly, Teacher 7 shared how falling back on what he observed as a student also became a familiar way to approach grading: “I pretty much developed over time based on what I saw when I was still in school. So, I guess… pretty much just followed, I guess traditions, customs that I've already seen and observed.”

Other teachers shared stories about circumstances that resulted in conscious

decisions about how they treat their students. Teacher 9 pointed to his experiences in high school and recalled being treated harshly by some teachers and being given “grace” by others:

> I was not the best student in high school. And without people extending some grace to me, I don't think that I would be where I am right now… I think, as far as my own educational experience is just remembering my own journey and having empathy and kind of understanding where kids are.

Another interviewee mentioned her perceptions of harsh treatment by teachers as a reason for granting students second chances at learning. Teacher 2 remembered being given assignments in high school and her frustration with the assigned grades. Her irritation appeared to stem from what she perceived as a lack of communication from the teacher and the lack of an opportunity to improve her grade. She stated,

> I just remember being in school and I get a test back and like, oh well, that's what it was. You know, what if had a bad day, you know? So I'm more interested in them learning than I am being sort of hard about well, you didn't get this right now.

Teacher 6 also recounted how his encounters in high school and college directly impacted his grading decisions regarding giving students extra credit:

> I don’t believe in it because I have never seen a college professor give extra credit. I'm old guard, liberal arts old school, small college, everybody knows your name. If you've got your phone out, your butt's getting kicked out of the classroom kind of world. So that influenced me big time, but I just don't give extra credit. I've never gotten extra credit in any of my classes. We used to say,

> I'm from X. We used to say it's where teachers went to retire. So, I had a lot of older teachers who just I guess they didn't…I guess I'm influenced, but I normally don't give it.

Although each of these teachers referenced a reliance on applying grading practices recalled from what they experienced as students, the way in which they responded appeared to be different. Teachers 2 and 9 intentionally employed grading practices that they felt would give students hope and provide redemption as a reaction to perceived harsh treatment; however, Teachers 4, 6, and 7 indicated that they were simply replicating grading practices based on familiarity and observations of former teachers. These data implied a connection between teacher experiences with being graded and how they develop their approach to grading. The grading behaviors teachers employ when assigning grades may be linked to their perceptions of being graded.

Besides relying on their past experiences as students, another source of grading knowledge for study participants was their colleagues.

Teachers Rely on Colleagues for Direction on Grading Practices. Similar to what survey submissions showed, interviewees named peers as an origin point of their grading practices. This sentiment was particularly true for Teacher 8, who entered the profession through alternative certification. She did not get a chance to undergo traditional teacher preparation and does not recall receiving any type of training or professional development on grading and assessment, so she relied on her mentor to fill in the gaps. According to her, "I had a good mentor where I was at and she told me that I didn't need to reinvent the wheel, that it's been done, and I can just make modifications." Teacher 11 credited working with her cooperating teacher and other educators while

student teaching for helping her develop grading practices. She pronounced, “I mean they probably taught me more about teaching than school did, and I graded a lot of stuff for her.”

Lack of formal training about grading was a common reason teachers cited for dependence on colleagues for grading guidance. In the absence of pedagogy, teachers seemed to view their peers as reliable sources. Even after 15 years in the classroom, Teacher 1 could not remember receiving any formal training on grading methods or best practices. She conceded, “I'm sure that my influence has come from a multitude of people I have come in contact with as far as what I should do and what I shouldn't do.” Teacher 2 had a similar experience: “I've learned the good stuff from my friends, my colleagues, people I look up to…collaboration and learning from other really seasoned teachers.” Along with what he took from his personal academic experiences, Teacher 7 also referenced learning from watching what he “saw other teachers do.” Teacher 9 emphasized how much he depended on fellow teachers at the beginning of his career for help with grading: “Working with colleagues and…just you know, hey what are you doing in your class? What’s working for you?”

It was apparent from this feedback that teachers emulate their colleagues’ grading behaviors. They appeared to seek advice and support from their counterparts as a result of not having received official instruction on grading and assessment. Their comments suggested that beginning teachers may feel unequipped for the task of grading. This feedback points to the possibility that the lack of reliability in teacher grading practices may be explained by behaviors accumulated based on a variety of professional interactions and experiences.

The third theme that became apparent during interviews is that teacher views about grading evolved over time.

Grading Behaviors Evolve Due to Professional and Personal Experiences. Teachers described the circumstances that prompted the change in their beliefs and/or practices. The two commonly cited reasons that led to changes involved professional development training or experiences with students.

Most of the teachers interviewed had never received any training or professional development on grading; however, two teachers shared the impact of the knowledge received. Teacher 4 said that he completely shifted his views about grading after participating in a workshop with a renowned grading expert. As a result of what he learned, he reexamined his thinking about using averages to calculate grades, separating subjective and objective grading factors, and grading formative assessments. Commenting about what he learned in the workshop, he said,

> The two core principles I would say is separate everything out from their performance. Are they able to perform what you're trying to teach them? In other words, you're separating out behavior life skills, all of that. Let's not grade the formatives and also that we're not going to average.

Teacher 11's experience with another prominent grading researcher caused her to question her grading behaviors. She described her incredulity at the time: "I was like, are you crazy, you know, don't give a zero? Let him retake a test?" Consequently, she admits, "My thoughts changed, but they gradually changed."

Besides training and professional development, several teachers recalled a transformation in their thinking and grading behavior due to experiences with students

during their careers. At the beginning of his career, Teacher 9 worked in a charter school where many students experienced homelessness. During the interview, he took a long pause to consider how he felt as a new teacher and said that his grading practices were derived from “expectations in my mind, what I believed it should have been”; however, it was a pivotal conversation with an administrator at the time that precipitated a change of heart:

> He gave us the numbers and just said “Hey, we got a lot of kids who don't have a place at home, you know? And can you imagine you sitting in the car that your parents are holding on to? You're trying to sit in this car and write and do homework each night?”… So I just think that, you know, a lot of times we may not take that type of stuff into account.

Now, he considers his grading policies to be even more lenient than what the school dictates for teachers to follow. He ascribed his grading evolution to the personal relationships he built with his students in an attempt to get to know them better.

Teacher 6 spoke about similar experiences working with students who are dealing with issues outside of school that he cannot control. He confided that many of his students are securing part-time employment to help support their families. Once he realized that students may be in unstable housing situations without enough food to eat, he began to revise his grading policies for retakes and submitting late work: “Well, some students don't know where their next meal is coming from. So that influenced my late policy and things like that…influenced retakes for sure.” Teacher 11 also recognized the need to revise her late work policy even though she admitted, “I felt very differently about this earlier in my career.” She does not want students to turn in late work

consistently, but she considered circumstances that could lead to late work submissions:

> They're busy, I mean I have kids that miss class two, three times a week for sports and they're getting bussed all over the place. They don't get home until late. You know, they have other things to do at home, sometimes it just doesn't get done.

Ultimately, she decided to eliminate zeros for missing assignments and said, “I'm just happy to get the work.” In a similar fashion, Teacher 7 felt that as he gained more experience in the classroom, he became open to modifying his grading behaviors:

> I will say that over time, there’s been more flexibility. And I guess that like, in terms of allowing students to retake a test or a quiz…probably early on it was just you know, you fail, you had your shot.

Several other interview participants attested to undergoing some form of growth or change in their grading practices. Teacher 1:

> I went into the profession fully in support of grading, and, you know, holding the students accountable for work and not accepting late work, and then throughout the years it has become more important to me for students to retain the information to learn the information.

Teacher 2: “I've changed lately. Maybe in the past, I don't know, maybe three to five years.”

Teacher 3: “I do know this, the older, I've gotten, the more lenient I've become because, you know, different circumstances, lend itself to different outcomes.”

These interview statements further verified the idea that teacher grading practices are subject to evolving over time as they are affected by their experiences. Interview comments suggested that teacher grading practices may not be static, and teachers may be

susceptible to changing their behaviors. Each of these teachers described an event or circumstance that precipitated the change. Teachers 4 and 11 specifically mentioned impactful encounters with receiving evidence-based instruction on grading, but the other teachers reported a change in their practice as a response to recognizing students' particular needs. Teachers 6, 7, 9, and 11 seemed willing to forgo strictly adhering to previous grading behaviors if it was not in the best interest of their students.

Research Question 3 Summary

Research Question 3 provided insight into how teacher grading behaviors develop and change throughout the course of their professional careers. The survey responses confirmed that 43% of teachers (*n*=25) reported having their own grading procedure, and the interview data offered a possible explanation. Interviewees shared that they typically do not receive preservice training, and this lack of professional development persists once they enter the profession. Interview data suggested that teachers rely more on their past experiences and collaboration with colleagues to guide their grading practices than formal training or professional development. These findings were on target with the 51% of teachers who revealed on the survey that they consult with colleagues on grading criteria. Although teacher responses to this statement do not definitively equate collaboration between teachers with a lack of training, it does support the idea that teachers may consult with colleagues on professional matters. Interview data also showed that a large majority of study participants expressed changes in attitudes and beliefs, which affected their grading practices.

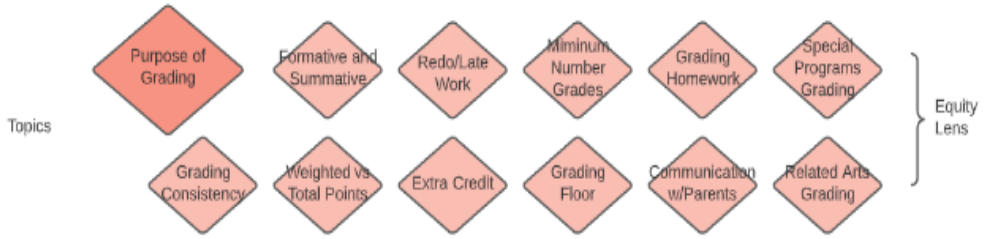
Research Question 4: What Are the Equity Implications of Teacher Grading Practices?

At the beginning of the 2022-2023 school year, District X shared a document with

teachers providing guidance on grading expectations for each grade level. This document was created as a result of feedback from district stakeholders and discussions among a district-level grading task force. Figure 7 shows the topics considered in devising the district grading criteria.

Figure 7

District X Grading Topics



The grading topics presented in Figure 7 were viewed by the district's grading task force through an equity framework, and the grading expectations document included statements concerning the common purpose for grading as well as a list of grading guidelines. The following is a summary of the grading stipulations for secondary-level teachers:

> There should be a minimum and maximum number of grades each nine weeks and a consistent number of grades in each category. The two categories for grades should be *major* and *minor* with a 50% grading calculation ratio. A minimum of one grade should be assigned in the gradebook each week.
>
> Raw scores (total points) should be used by all teachers and point ranges should be consistent.
>
> Homework is intended for formative learning and specific and immediate teacher

feedback (within 48 hours) is expected.

There should be a minimum grading floor of a 40 average on report cards for high school students.

The purpose of the fourth research question was to better understand the equity implications of teacher grading practices. In order to answer this question, I examined teacher responses to survey items in Section 5 and linked them with responses in Table 18 related to equitable grading practices. I also used interview questions to elicit teacher feedback concerning concepts associated with equitable grading principles.

Survey. The items in Section 5 of the TPGP targeted specific aspects of teacher grading habits. Table 26 shows the responses to Questions 29-32.

Table 26

Survey Section 5 (N=59)

Survey item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
29. I tend to use letters (e.g., a, b, c) rather than numbers (e.g., 95%) in grading.	1.7% (*n*=1)	1.7% (*n*=1)	10.2% (*n*=6)	47.5% (*n*=28)	39% (*n*=23)
30. If a student fails a test, I will offer him/her a second chance to take the test.	35.6% (*n*=21)	44.1% (*n*=26)	15.3% (*n*=9)	3.4% (*n*=2)	1.7% (*n*=1)
31. I often give students opportunities to earn extra credit.	17% (*n*=10)	18.6% (*n*=11)	18.6% (*n*=11)	32.2% (*n*=19)	13.6% (*n*=8)
32. I often look at the distribution of grades for the whole class after I finish grading.	27.1% (*n*=16)	49.2% (*n*=29)	8.5% (*n*=5)	13.6% (*n*=8)	1.7% (*n*=1)

Eighty-six percent of teachers (*n*=51) disagreed or strongly disagreed with the

statement, “I tend to use letters rather than numbers in grading.” These data implied that teachers are utilizing a traditional numerical grading scale based on points earned. The level of teacher disagreement or strong disagreement with the statement, “I often give students opportunities to earn extra credit,” was 46% (n=27) was higher than other rating selections. This percentage was indicative of teacher reluctance to offer grades as commodities. Seventy-six percent of teachers (*n*=45) admitted that they often look at grade distributions after assigning grades. This percentage implied that teachers pay attention to how they assign grades across courses. This finding indicated that teachers may look at grade distributions to discern patterns of grading disparities among students in similar courses that may be a result of grading variability.

The survey information was analyzed along with interview data to look at how teacher grading practices align with equitable grading principles.

Interviews. As illustrated earlier in Figure 7, several grading topics discussed in the literature were considered by district stakeholders to draft a document designed to communicate specific grading directives to teachers. I incorporated the district K-12 grading expectations into the data collection process because it was developed by the district with an intentional focus on promoting grading practices through an equitable grading lens. Interview questions were designed to capture teacher interpretations of information in the document in order to better understand their approach to grading within an equitable grading framework. Several interview questions were created using excerpts taken directly from the district document. For example, I asked teachers to explain their understanding and reaction to statements such as, “Grading should be an assessment of student learning: a consistent and equitable process across our district” and

"Grades should not be a punitive discipline tool nor merely a function of student participation and effort." I also considered teacher responses to questions involving grading procedures.

I reexamined data from Research Question 2 in tandem with Research Question 4 because the second research question specifically pertained to factors teachers consider when grading. Additionally, data were examined with regard to the equitable grading pillars. I used a priori codes from the three pillars of equitable grading conceptual framework: accuracy, bias-resistant, and motivational. Accuracy was used to describe data that referred to grading practices in terms of mathematical accuracy and measuring objective learning performance. Bias-resistant was used to describe practices involving evidence of grading based on content knowledge and the exclusion of external factors. Motivational was used to describe practices related to grading that encourage multiple opportunities for academic success. Table 27 shows the analysis of interview data for Research Question 4 pertinent to the equitable grading pillars.

Table 27

Research Question 4: What Are the Equity Implications of Teacher Grading Practices?

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
Accuracy	Does not believe in minimum grading policy but understands the reasoning (4)	Minimum grading	"I'm in agreement with it. just because I know what type of student it affects…"	Equitable grading practices vary among teachers.
Bias-resistant	Effort (9)	Participation and effort	"I only try to actually grade the effort and or lack thereof, in the actual ending."	
	Exclusion of behavior in grading (8)	Behavior	"So it doesn't matter if I write 10 referrals for a kid and have to kick them out every day if he does well in the class, his grade is good in the class."	
	Grading formative assessments (8)	Formative assessment	"I grade them, that motivates them to do it."	
Motivational	Approves of retakes/redos (8)	Second chances	"I give them back the work and I say 'I would like for you to revise this so many times," my assignments are in steps where they can go back and really focus on what they missed."	

In addition to the a priori codes, a multitude of inductive codes were referenced during further inspection of transcript data; however, Table 27 shows the codes that were noted most frequently during teacher interviews. Codes were assembled into the following categories: minimum grading, participation and effort, behavior, formative assessment, and second chances. The codes that were tallied continuously were effort, exclusion of behavior in grading, grading formative assessments, and approves of retakes/redos. Table 28 shows the analysis of additional codes for Research Question 4.

Table 28

Research Question 4: What Are the Equity Implications of Teacher Grading Practices?

A priori code	Second round codes (frequency)	Category	Examples of participant quotes	Theme
Teacher reactions	Agrees with equitable grading (7)	Response to district expectations	"I agree…I can't tie a grade into something that everybody can't actually get."	Teachers have mixed reactions to equitable grading principles.
	Neutral reaction to district grading expectations (7)		"I would say it was neutral, nothing I haven't seen in other districts and throughout my teaching career."	
	Negative feelings about grading expectations (3)		"My feelings were mostly negative because I felt like it was a late-in-the-game imposition and would cause changes."	

The a priori code teacher reactions was used to describe teacher feelings about the content in the district document. The category used to organize the codes was response to district expectations. Within this category, the codes cited frequently were agrees with equitable grading, neutral reaction to district grading expectations, and negative feelings about grading expectations. Using these codes, I concluded that teachers have mixed reactions to equitable grading principles.

Equitable Grading Practices Vary Among Teachers. The data analyzed to answer Research Question 2 established that teachers have various approaches to grading. Survey and interview data showed that numerous teachers believe in the equitable and motivational practice of allowing students retake/redo opportunities. They also denied using grades to punish undesirable behavior and expressed conflicting feelings about minimum grading. Both of these grading behaviors are considered practices that fall under the accuracy and motivational pillars. Although data revealed a pattern of grading formative assessments and including effort as a grading factor, neither of these are

deemed bias-resistant grading practices. This variability in equitable grading methods was also apparent in how teachers view grading equity.

Despite the mixed reactions to the expectations, teachers appeared to embrace the idea of equity. Teachers made statements that inferred their agreement with equitable grading. For example, Teacher 3 said, “It should be equitable, yes, it should be. It should be consistent across the district.” Teacher 10 assented, “I do agree with that as long as it's fair, meaning the equitable part…I'm big on that”; yet teachers seemed to have different ideas about how they defined equitable grading and what it represents.

Teacher 6 was very candid in his assessment of equitable grading. He described grading for equity as “aspirational” but not realistic and stated, “I think it's great in theory and hard to do in practice.” Teacher 11 had a similar reaction: “I don't think equitable is equal for one thing. I mean, even within a classroom sometimes, it's not, I think it sounds really good on paper.” Teacher 3 questioned, “What is truly equitable? You know, can I treat a student who has received all of the necessary background the same way as opposed to somebody who may not have?” Teacher 8 held the position that “there's a way to be equitable, but you need to know that there's going to be modifications made for each individual student in each individual classroom.”

These data alluded to the idea that equitable grading practices vary among study participants due to conflicting feelings about equity. Teachers were outwardly supportive of assigning grades with fairness and consistency, yet comments such as “aspirational,” “great in theory,” and “sounds good on paper,” suggested teacher concerns with the practicality of grading equity. The interviewees’ feedback seemed to acknowledge the need for equity; however, their responses also indicated that they were unclear about how

to define equity and appeared to be unconvinced about the realistic implementation of such practices.

Survey data coupled with interview data further demonstrated that there is variability in how teachers apply equitable grading practices. Teacher responses to grading concepts associated with equitable grading were also ambiguous.

Teachers Have Mixed Reactions to Equitable Grading Principles. Attitudes adopted by teachers in response to the district grading expectations were a combination of reactions. Views ranged from negative to neutral to positive agreement. Several teachers did not appear to be in strong opposition or agreement with the grading practices as outlined in the district document. Teacher 2 said that she did not mind abiding by the expectations because she regards it as a "tool" with specific instructions for grading: "I'm really kind of hung up on teachers being professional and being held to a standard." Teacher 3 stated she felt "somewhat neutral" about the expectations because she perceives her compliance as a professional responsibility. Teacher 6 described his neutral stance in terms of knowing "what battles to fight," and Teacher 7 reacted neutrally because the expectations were not vastly different from what he experienced in other districts and schools during his teaching career. Teacher 8 conveyed her neutral reaction with a sense of resignation: "I know anything that I feel bad about is not…I can't change it. And so I've kind of learned that I need to go along with the system, but I don't like the [grading] floor."

These reactions implied that teachers may be accustomed to adapting to and accepting policies with which they may or may not agree. Teacher 7's neutral response gave the impression that he was unbothered by the grading expectations because he

encountered similar guidelines or policies during prior professional experiences. Teacher 2 and Teacher 3 seemed to value the uniformity of the grading expectations because they provided guidelines for all teachers to follow, presumably reducing the probability of variation. They both seemed to view and accept the guidelines as a form of professional accountability. Although Teachers 6 and 8 did not indicate outright disagreement, their replies conveyed a sense of powerlessness over decisions that appeared to be outside of their control.

Conversely, two teachers described having neutral/negative reactions. Teacher 9's main concern with the guidelines was due to the challenge of trying to balance the required number of graded assignments with his coursework: "I want to be informed, I think. The part when I say it was maybe negative is that I feel like for social studies classes…my class in, in general, I usually have a bunch of assignments." Teacher 10 said she felt "a little negative/neutral." She claimed that the grading expectations were initiated in reaction to the COVID pandemic and protested, "At some point, we can't keep saying it's the pandemic, but it is the pandemic-dependent kids. So I know why they're doing it."

Teacher 9 did not have a completely negative reaction, but his mixed emotions seemed to arise from issues related to how to enforce the guidelines while still being able to do what works for his classroom. Teacher 10 seemed to understand the district's justification for the guidelines, but her comment suggested a belief that perhaps these changes were only initiated as a result of the pandemic. Her negative feelings may be explained by her statement that students are being "coddled" and "given too much," and she views the grading expectations as a form of academic indulgence.

Interview data also revealed that there were some teachers who clearly had negative reactions to the guidelines. Teacher 1 reluctantly admitted,

> I have never seen this document before. At least not in the way it's presented here. I'm not saying that it wasn't provided to us, or the information wasn't provided for us. I just have never seen this actual document before.

She had a negative reaction to the grading expectations due to her disagreement with the idea of grading being consistent. When responding to the statement that grading should be “a consistent and equitable process across our district” she remarked, “I like equitable because it shows that there is differentiation but again it's that consistent word that I have a problem with because students aren't consistent, they're not.” Teacher 8 also took exception to the idea of grading practices being consistent:

> I know we have to have like one formal set of rules, I like that, but I haven't really liked the fact that my grading is supposed to look like the teacher’s next door. I don't think that's fair for my students because my students aren't the same as the ones next door. When we have to have the same amount of points in the same amount of assignments, I think that's unfair to the kids because each classroom is different.

Teacher 11 expressed a similar response:

> Well, consistent and equitable sounds to me like they want every teacher to do the same thing. Um, and I don't think every class is the same, and I don’t think every teacher teaches the same and maybe that's why they're doing the 50/50.

The sense of negativity expressed by Teacher 1 may be explained by a perceived lack of clear communication about the document from the district and/or her school. I

also noted that each teacher mentioned the word “consistent” in their comments. Teachers 1, 8, and 11 all seemed to interpret the grading guidelines as an expectation that each of their classrooms should progress and operate exactly the same way. Their feedback insinuated a presumption that all teachers must grade students as a matter of course rather than by choice. These interview responses suggested that following the grading guidelines may mean losing the autonomy to make decisions about their classrooms.

Other negative responses from teachers were focused on specific ideas rather than the document as a whole. For example, Teacher 3 announced her dispute with the statement, “Grades should not be a punitive discipline tool nor merely a function of student participation and effort” and asserted, “I don't believe it should be punitive. But effort, I do believe plays a huge part.” This comment implied that her objection was based on a philosophical viewpoint. Teacher 3’s negative reaction may be attributed to her belief that student effort is important and should not be excluded from the grading process.

A major point of contention for Teacher 4 was the way expectations were rolled out to teachers. Even as a veteran teacher, he said he felt exasperated:

> My feelings were mostly negative because I felt like it was a late-in-the-game imposition and would cause changes. Now maybe for some real pro teachers who've been here for a while, they could adapt on the fly. For me, it felt like a lot since I was new to the district.

This comment suggested that the reason for his negative reaction was largely due to a procedural objection. He expressed displeasure with how the grading information was

shared with teachers because he felt that there was not enough time allotted to adequately explain the expectations leading up to implementation. His statement highlighted potential frustration that may be felt by experienced teachers when dealing with changes for which they may be unprepared.

Despite evidence of negative reactions, some teachers answered with equally positive outlooks toward ideas involving equitable grading principles. Although Teacher 10 confessed to having a negative/neutral reaction to the creation of the district document, when asked about whether grading should be a “consistent and equitable process,” Teacher 10 said, “I do agree with that long as it's fair…meaning the equitable part, I’m big on that.” Teacher 5 interpreted equitable grading as a way to ensure that she assigns grades impartially: “I can't make grades that would exclude one group or another from being able to get a good grade.” Teacher 9 felt similarly and said, “Students in similar classes should have similar characteristics like grading practices.” When asked about the statement referencing grades as one of many forms of feedback used to assess student growth, Teacher 11 replied, “I agree with that, it is just one thing. And it is there just to give an indication, a snapshot.” This comment reflected the belief that all learning may not be captured by a grade earned at a fixed point in time.

In contrast to the negative reactions triggered by the word “consistent” in the grading document, Teachers 9 and 10 exuded positive reactions to the implicit consistency of equitable grading. They appeared to believe that grading for equity could be beneficial to teachers and students because it promotes impartial treatment and limits the possibility of excluding students from earning good grades.

These data suggested that teachers take various standpoints on grading equity.

They communicated a range of reactions and reasons for their responses to equitable grading principles. Although some teachers acknowledged their reservations and concerns with certain aspects of the district's grading expectations, they also expressed a good deal of apathy toward the policy as well as positive reactions to particular equitable grading principles.

Research Question 4 Summary

Quantitative and qualitative findings showed that teacher grading behaviors are not always consistent with the equitable grading pillars. Although a large percentage of teachers felt that offering students retakes/redos was acceptable as evidenced by both the survey and interview data, there were still multiple indications of other inequitable practices.

Survey data substantiated that study participants incorporated factors other than achievement into assigning grades. For example, 57 teachers rated formal achievement as a primary grading factor, yet when asked to rank other factors they consider when grading, they selected student effort, ability, classroom behavior, and attendance/participation. These data further supported grading practices described by interview participants. Even though 46% of teachers disagreed or strongly disagreed that they do not frequently give students extra credit, interview participants did share that they give extra credit as a reward for effort. Other evidence that teachers may not be in favor of equitable grading was evident in the interview feedback shared about disagreement with minimum grading and negative reactions to the equitable principles stated in the district grading guidelines. Consequently, factors that teachers choose to include when assigning grades may lead to grading practices that are not accurate, bias-resistant, or

motivational.

Overall Summary

Overall findings indicated that teachers perceive and utilize grades for different purposes and reported using a combination of objective and subjective factors when assigning student grades. Study results verified the existence of grading variability among teachers which may lead to inequitable grading practices. The data also suggested that teacher grading behaviors are dynamic in nature. It is not unusual for teachers to enter the profession with limited to nonexistent knowledge about grading and assessment. Their attitudes and grading practices are likely to evolve in response to personal and professional influences. Finally, teacher feelings toward equitable grading principles appeared to run the gamut, from positive endorsement to neutral detachment to negative disregard.

In the upcoming chapter, I provide a synopsis of the results. Chapter 5 includes an interpretation of findings in connection with the research literature and study frameworks. I discuss implications for practice and make recommendations for potential research. The following chapter also includes a review of the study limitations and delimitations.

Chapter 5: Discussion

Introduction

Grading is a professional practice expected of teachers to communicate student learning. At the secondary level, grades have the potential to take on more significance as students may be preparing to attend college, achieve placement in honors courses, secure scholarships, and receive academic accolades. Ultimately, grades assigned by teachers could be the determining factor for the types of opportunities offered to students (Feldman, 2019b; Quinn, 2013; Reeves, 2016); however, a review of the literature, presented in Chapter 2, established that many grading practices are rooted within a historical system that is no longer relevant (Guskey & Brookhart, 2019).

Despite the continuous evolution of education, these traditional practices remain in use and may perpetuate grading inequities that place students at risk of achieving academic success (Erickson, 2010; Feldman, 2019b). Through this study, I sought to understand how teachers perceive and develop their grading practices and how these behaviors might impact the ability of students to demonstrate their learning. Four research questions guided this research:

1. How do teachers perceive their grading practices?
2. What factors do teachers report that they consider when assigning student grades?
3. How do teachers describe the evolution of their grading practices?
4. What are the equity implications of teacher grading practices?

In this chapter, I begin with an overview of the research study. I present the study findings for each research question in relation to the research literature and theoretical

and conceptual frameworks. In addition, I address implications and include recommendations for future research. An explanation of limitations and delimitations is provided. The chapter concludes with a summary of study takeaways.

Study Summary

I gathered study data through an online TPGP survey and individual teacher interviews. Fifty-nine teachers completed the survey. Survey items focused on teacher perceptions about grading, purposes for grading, and factors they consider when assigning grades. Descriptive statistics were used to analyze the survey data. During the same time period, I conducted virtual interviews with 11 teachers representing various content areas and Grades 9-12. Interview questions were designed to determine how teachers perceive and develop their grading behaviors, factors they consider when grading student work, and how their grading behaviors evolve. I also solicited teacher feedback concerning their understanding and reaction to equitable grading principles. Teacher responses were recorded, and transcripts were coded to develop common themes. Both sets of data were triangulated to further validate the findings. Theoretical and conceptual frameworks were used to guide this study analysis.

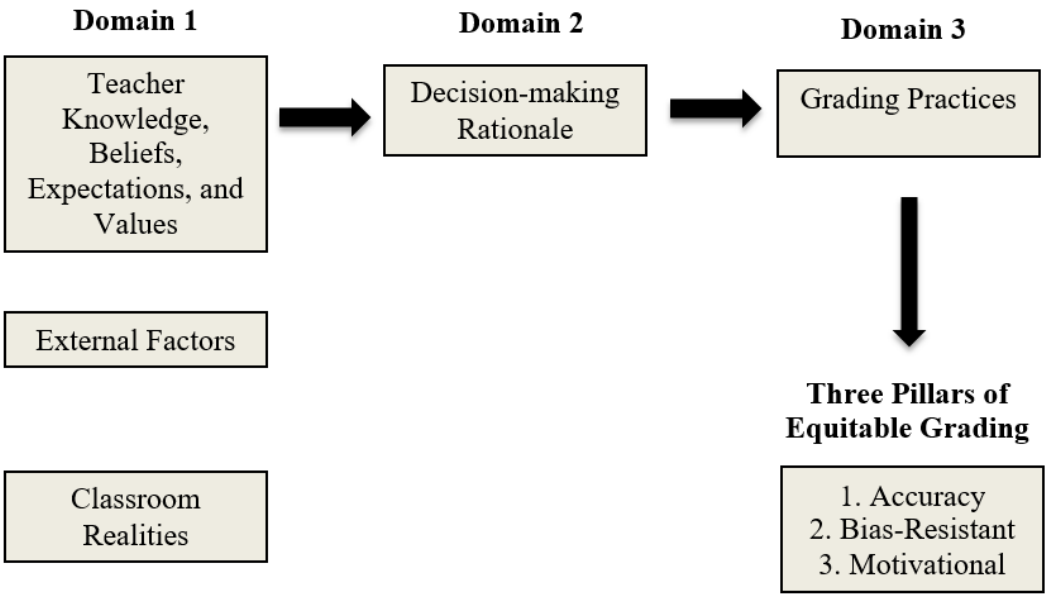
Theoretical and Conceptual Frameworks

The decision-making framework originally created by McMillan and Nash (2000) and revised by Kunnath (2016) was the theoretical framework used to describe the decision-making grading process that guides teacher grading behaviors. In this study, three domains of decision-making were used to investigate teacher grading practices. The network of interaction among the domains was used to explore and explain teacher grading behaviors.

Grading researcher Joe Feldman (2019b) asserted that traditional grading practices contribute to grading variability and perpetuate grading inequities. He proposed that these grading behaviors are still practiced by teachers within contemporary school systems and have the potential to negatively impact students. He created the concept of the three pillars of equitable grading (Feldman, 2019b) to explain the three requirements that must be present to ensure equitable grading: accuracy, bias-resistant, and motivational. Figure 8 shows the connection between the theoretical and conceptual framework.

Figure 8

Teacher Decision-Making Framework and Three Pillars of Equitable Grading



In the decision-making framework, each domain represents the network of factors and teacher beliefs that direct their grading behaviors. Figure 8 depicts the web of interaction that exists between each of these domains. This theory contends that teacher knowledge, beliefs, expectations, and values, along with external factors and classroom

realities, influence their decision-making rationale and may materialize as an assortment of grading practices. For this study, teacher grading behaviors formed within this decision-making framework were reviewed in reference to a conceptual framework. The three equity pillars were used to analyze the grading practices of study participants.

Discussion of Findings

The purpose of this research study was to explore secondary (Grades 9-12) teacher perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. In the following section, I discuss the findings in reference to the four research questions.

Research Question 1: How Do Teachers Perceive Their Grading Practices?

The first research question was created to determine teacher perceptions, views, and beliefs about grading. Teacher survey and interview responses revealed how teachers regard the purpose of grades and how they utilize them. Several themes were developed from these data and aligned with grading research.

The data connected to Research Question 1 indicated that teachers rely heavily on grades as a form of assessment to monitor student learning progress and as a primary indicator of the concepts and skills students learned. Fifty of the 59 teachers who submitted surveys responded that grading has an important role in classroom assessment. Survey and interview responses underscored the emphasis that teachers place on using grades as a measure of learning and student achievement. The clearest example of this finding was encapsulated by a teacher who likened a grade to a thermometer reading. These data related directly to information in the literature regarding the various functions that grades serve and the importance placed on grades for communicating student

learning to others (Feldman, 2019b; Morrison, 2003; Quinn, 2013; Reeves, 2016).

Survey responses revealed that teachers buy into the notion that grades encourage good work from students and motivate them to learn. Interview responses showed that some teachers felt students would not complete their work unless they received something tangible in return, and grades were the most powerful motivator. This finding coincides with grading literature that credited motivation theory with being a driving force behind how schools and classrooms function (Earl, 2013; Feldman, 2019b; Stiggins, 2001). According to Reeves (2016) and Stiggins (2001), some teachers use grades to fulfill the purpose of awarding positive academic performance and punishing poor performance. Utilizing grades in this manner implied that teachers may be depending on Pink's (2013) assertion that earning good grades is the sole focus for students attending school.

There were also indications that teachers perceive grading as a way to hold students accountable and prepare them for the responsibilities they will need to assume upon entering the workforce or pursuing postsecondary education. Teachers made numerous mentions of the importance of students adhering to deadlines and managing their time. This line of reasoning was frequently used to rationalize enforcing penalties for late work and assigning zeros for missing assignments. Guskey (2015) and Zsaagstra (2012) noted that some educators embrace the idea of using grading policies to penalize late or incomplete work submissions in hopes of spurring students to action. The value teachers placed on student accountability, responsibility, and work ethic exemplified the type of behavioristic philosophy described in the literature. Feldman (2019b) claimed behaviorism became a core principle established within the traditional grading system as

a way to shape student behavior in order to promote the skills that would prepare them for the 19th century labor force. Study data suggest that this philosophy may still be an inherent part of teacher grading practices.

As reported in the literature, another purpose for grading is to provide student feedback (Reeves, 2016), and this idea was clearly reflected in the study findings. Despite the fact that grading researchers (Guskey & Bailey 2001; Guskey & Brookhart, 2019) recommended that corrective feedback may be more effective than simply assigning a grade, teachers in this study indicated that grades are still the primary means by which they communicate learning feedback. This finding was supported by survey data that showed that more than 90% of teachers agreed or strongly agreed that grades provide feedback to their students. Interview data also signaled that teachers believed grades are useful for communicating learning performance to students.

Connection to Theoretical Framework. Research 1 findings supported the premise that teacher philosophies and value systems help direct their grading practices (McMillan & Nash, 2000). In accordance with the model, it appeared that teachers' individual philosophies and belief systems about the purpose of grades were the driving force behind their grading practices. For example, a large number of study participants reported that grades encourage good work and motivate students to learn. Interview participants also stated that they entered grades based on the belief that grades can solicit a response from students. In addition, some teachers indicated in interviews that their grading practices are predicated on a philosophy that favors work ethic, responsibility, and accountability.

Implications. The beliefs, values, and experiences that each educator brings to

the classroom are not expected to be identical. It is logical to assume that what teachers believe and value may impact the way they perceive the purpose of grading. Assuming that a grade is an authentic representation of what a student knows and is able to do can be misleading if teachers do not share a common understanding of the purpose of grades. Evidence from the data showed that although a large number of teachers reported that they use grades to measure student learning, it is not the sole reason for assigning grades. Grading researchers have documented that grading variability not only includes how teachers use these extraneous factors to calculate grades but also how they view the purpose and usefulness of grading (Feldman, 2019a; Guskey, 2009). How teachers perceive the importance and usefulness of grades has potential implications for how they use them.

Study findings highlighted how much teachers give precedence to feedback and motivation in the grading process. Although survey data indicated a large percentage of teachers felt that grading plays an important role in classroom assessment, only one interview participant provided details during an interview about how he uses corrective feedback during one-on-one conferences to help students improve their grades. When feedback is delivered as an assessment for learning rather than of learning, there may be a chance for learning growth to occur (Black & Wiliam, 1998), yet most teachers in the study seemed to utilize grades as a one-way form of feedback of learning.

The results of this study suggested that teachers recognize grades as a motivational tool to get students to produce a desired result, yet not all students are motivated by the lure of a good grade (Earl, 2013). Over 60% of study participants submitted survey answers demonstrating that they believe high grades can motivate

students to learn, but making this assumption may actually have a counteractive effect. In fact, it may decrease motivation and create a sense of disinterest in learning achievement for students who do not regularly earn good grades (Hattie & Clarke, 2019; Pink, 2013). More importantly, adopting this viewpoint may encourage a “learn to earn” environment rather than one focused on growth and content mastery. Consequently, students may be more likely to give up on meeting learning goals or only retain knowledge temporarily for the sake of earning points. They may also miss out on opportunities to experience learning success and growth. Furthermore, parents and teachers may not have an accurate idea of student learning capability.

Research Question 2: What Factors Do Teachers Report That They Consider When Assigning Student Grades?

Although teachers purported to prioritize formal achievement measures as a grading factor, survey data revealed student effort was the second leading factor that teachers consider when grading student work. These results mirror previous studies on the subject (McMillan & Nash, 2000; Randall & Engelhard, 2010; Sun & Cheng, 2015). Seventy-six percent of study participants either agreed or strongly agreed that they consider student effort when they grade. Effort also played a prominent role in how teachers make decisions about passing or failing students for a course, awarding bonus points, and developing attitudes toward minimum grading. For instance, 19 survey respondents reported that they would give a student a passing grade for a class if the student put forth effort. Interview participants also shared that they were willing to offer bonus points and extra credit for students willing to make an effort, and several teachers felt that if students did not put forth effort, then they should not receive a minimum score.

In addition to effort, teachers also reported taking student ability into consideration when assigning final grades. These data lined up with findings documented in the literature that showed that although teachers emphasize academic performance, they still incorporate other factors such as student effort into determining grades (Cross & Frary, 1999; Duncan & Noonan, 2007; Guskey & Link, 2019b; McMillan et al. 2002; Rockhead, 2019; Sun & Cheng, 2015). Notably, student participation as a grading factor seemed to be a point of contention among teachers in this study. There was an equal amount of agreement and disagreement reflected in response to a survey statement about basing grades on participation. Similarly, when asked to select from a list of grading factors they consider when assigning grades, nearly half (n=27) of the 59 teachers still selected participation as a factor they consider.

Formative assessments were featured as a regular grading practice for teachers. Both sets of study data indicated that homework, quizzes, and other minor assignments were factored into grading calculations. Some teachers expressed disagreement with always including formative assessments in their gradebooks but felt compelled to do so in order to comply with district and school grading expectations or to motivate students. Grading homework is one of the hallmarks of traditional grading cited in the literature (Brookhart et al., 2016; Feldman, 2019b; Guskey, 2020; Reeves et al., 2017). The practice of grading homework and other formative assessments has been described as problematic because these assessments are intended to provide students with opportunities to practice skills and grow (Earl, 2013). Grading experts recommended that formative assessments should not be weighted the same as summative assessments (Quinn, 2013) and in some cases should be eliminated completely from final grades

(Feldman, 2019b). Even though a small minority of study participants shared similar thoughts, it was clear from the data that formative assessments are incorporated into teacher grading practices.

In traditional grading systems, students are typically given one opportunity to show what they know, and their performance is documented as a grade (Feldman, 2019d). Research and recommendations from grading experts have led some districts and schools to adopt retake/redo policies in an attempt to increase motivation and give students a chance to improve their learning (Chappuis & Stiggins 2017; Feldman, 2020; Guskey & Link, 2019b). The school district that served as the site for this study has implemented such a policy, and teachers appeared to support allowing students a second chance at learning. More than 50% of survey participants believed that grades are based on a student's improvement and interview participants shared feedback consistent with this idea, but teachers did share some of their concerns with allowing students to recover credit. The angst that teachers described in the interviews mirrored literature themes. Generally, teacher opposition to letting students retake/redo assignments is based on the belief that allowing students to redo work will not help them be prepared for what they may face in college or may reduce the likelihood that they will initially put forth strong effort if they are aware of being granted a second chance (Goodwin & Rouleau, 2020; Guskey, 2020).

Despite multiple grading studies that showed evidence of behavior as a grading factor (Cross & Frary, 1999; McMillan, 2001; Nowruzi, 2021; Randall & Engelhard, 2010), the inclusion of student behavior in the grading process was widely disputed by teachers in this study. Several teachers passionately denied wielding punishment for

undesirable behavior through grades. Among the five factors teachers were given to select from as factors they consider when assigning final grades, behavior ranked in fifth place. One teacher implied that using grades to punish misbehaving students was something that only happened in the primary grades. Yet, it was evident from participant responses that teachers failed to see how other practices such as point deductions for issues such as late work, participation, and effort qualified as punitive behavioral factors. There appeared to be a dichotomy between how teachers apply grading factors to manage student behavior and communicate learning performance.

Connection to Theoretical Framework. Teacher values and expectations contributed to their decision-making and ultimately manifested as grading practices. Teacher support of retakes and redos exemplified the type of grading behaviors that McMillan (2003) described as “pulling for students” (p. 36) and “promoting understanding” (p. 37). A few study participants voiced their approval of using extra credit and bonus points to reward or motivate students. In the study to develop their theoretical model, McMillan and Nash (2000) noted that teachers rationalize using student effort and bonus points as a way to give students a needed academic boost.

The decision-making rationale employed by teachers can be used to explain how they interpret student effort, behavior, and ability based on classroom realities and external factors. For example, teachers shared that late assignment submissions are a reality for teachers and they can justify the decision to implement late work policies in an attempt to exert some form of control. Additionally, even teachers who did not agree with certain practices or policies, such as grading formative assessments, felt compelled to do so because of external factors in the form of district and school guidelines.

Implications. Students and their families depend on grades as accurate indicators of how they are performing in a given course. When other non-achievement factors are included in grading calculations, it provides an inaccurate representation of student performance. As evidenced in the data, study participants clearly believe their grades are based on formal achievement factors, yet also acknowledge that other factors do play a role. Inclusion of such factors distorts the meaning of the assigned grade and undermines grading reliability (Guskey & Link, 2019b). If each teacher emphasizes certain grading factors over others based on what they value and believe, there is a greater probability of grading inconsistency. And as Feldman (2019b) alleged, one of the main sources of grading inequity is inconsistent teacher grading practices. The findings of this study suggested that grading variabilities exist that increase the likelihood of students in the same district, school, and course being evaluated differently depending on each teacher's grading idiosyncrasies.

Research Question 3: How Do Teachers Describe the Evolution of Their Grading Practices?

The purpose of the third research question was to learn more about the origin of teacher grading practices. The study data provided information about teacher knowledge and experience with grading practices as well as influences that may have led to an evolution of their grading behaviors.

Although teachers referenced following district guidelines, study participants reported that they also have their own grading procedures. More than 40% of teachers suggested on the survey that they use their knowledge and experience when assigning grades. Survey data disclosed that more than 50% of teachers confer with their colleagues

on grading criteria. These data are supported by similar information found in the grading literature that purported teachers receive little to no preservice training on grading or assessment (DeLuca, 2012; Feldman, 2020; Link, 2018; Maclellan, 2004).

Teachers verified during interviews that their undergraduate programs did not include coursework on assessment, and they acquired much of their grading knowledge by learning from colleagues and mentors through collaboration and by modeling their actions. Only two teachers discussed receiving formal professional development training in their previous districts. For two other study participants, lack of training was further complicated by the fact that they did not enter the teaching profession by completing a traditional education program. These findings may help explain teachers' lower sense of self-efficacy toward grading. Sixty-five percent of participants indicated that grading is a difficult part of their role as teachers. These data are supported by Ledlow's (2022) findings that asserted high school teachers felt inadequate about their grading ability and lacked a sense of empowerment.

It was apparent from interview data that most teachers experienced some type of evolution in their grading behaviors and practices. Several participants described changes in their values and beliefs toward grading after entering the classroom. They attributed these developments to either impactful interactions with students or professional development and acknowledged that they were willing to be more flexible with students. This adaptability seemed to be due to their awareness of external factors involving students' homes or personal lives that could unfairly affect their grades. Another explanation offered by teachers for how they view and assign grades was how they, as students, were graded by past instructors. Although teachers recounted positive and

negative memories surrounding grading, Colnerud (2105) shared that there are numerous examples throughout the literature detailing teacher recollections of negative grading experiences. For some study participants, their negative experiences prompted them to take a more empathetic grading approach with students.

Connection to Theoretical Framework. Just as teacher knowledge, values, beliefs, and expectations influence teacher decision-making, so do their present and past experiences. McMillan and Nash (2000) theorized that one of the main reasons teachers find it difficult to specify how they grade students is because their decision-making is based on an eclectic collection of factors. Without the benefit of proper training, it seems plausible that teachers would draw from their practical experience to make grading decisions. Similar to what McMillan and Nash described, the grading behaviors of most study participants seemed to be by-products of lived experiences or professional practices adopted from fellow colleagues.

Implications. Campbell (2012) and Guskey and Link (2019b) found that teachers have deep-seated ideas about grading guided by individual beliefs, values, and experiences. The data analysis from this study indicated that teachers have their own procedures for assigning grades. Most teachers reported during interviews that they did not receive formal preservice or in-service training on grading assessment. Without the benefit of the presentation of sound research and information on effective best practices concerning grading, teachers use the advice of their colleagues and their own personal experience to make grading decisions. There is evidence that grading irregularities persist due to a lack of clear grading guidelines (Reeves et al., 2017); the absence of teacher training on grading and assessment (Feldman, 2019d); and a reliance on grading practices

they experienced as students (Schimmer, 2016) or observed from colleagues (Guskey, 2009).

In the absence of formal training, Alm and Colnerud (2015) stated that teachers may be liable for letting their experiences influence the way they grade. Decision-making that is not supported by research-based practices and involving personal experiences may increase grading irregularities and expose students to grading bias and inequitable grading practices. The study data suggested that teacher grading behaviors may evolve under certain circumstances. These findings implied that despite holding tightly to their beliefs, with proper training, teachers may be open to the possibility of adapting their practices. This sentiment was best illustrated by Teacher 6, who stated during an interview,

> When you start out right out of college without the professional development, you just fall back on what you did as a kid. What you remember about being graded. So I think the professional development was key for me…you can still teach an old dog new tricks.

Research Question 4: What Are the Equity Implications of Teacher Grading Practices?

The fourth research question was formulated to gain insight into how teacher grading practices conform to equitable grading principles. Study data concerning grading factors and practices were collected and considered from an equity perspective. Teacher feedback was analyzed in response to a district document outlining equity-focused grading expectations.

The study findings insinuated that equitable grading practices vary among teachers. Although teachers seemed intent on assigning fair and equitable grades, survey

and interview data implied the presence of subjective grading factors. An earlier review of survey data provided evidence that in addition to achievement, some teachers still consider student effort, ability, and participation when assigning grades. Moreover, nearly every study participant denied using grades to punish students for misbehavior, yet some did share they awarded extra credit, took off points for late work, graded formative assessments and homework, and put zeroes in the gradebook for missing assignments. Survey data showed that teachers were strongly in favor of using numbers rather than letters in grading. This practice was likely attributed to district mandates that required grades to be represented numerically on a 100-point grading scale. Each of these grading behaviors was referenced in the literature as a traditional practice that threatens grading equity (Feldman, 2019b, 2019d; Guskey & Brookhart, 2019; Marzano & Heflebower, 2011; Quinn, 2013; Reeves, 2016; Reeves et al., 2017).

Nevertheless, there was evidence of teachers engaging in equity-based grading practices. In response to a statement regarding giving students extra credit, 46% of teachers responded that they disagreed or strongly disagreed. Eighty percent of participants believed in offering students a second chance to take a failing test. Some participants reiterated support for allowing retakes/redos during their interviews and demonstrated an understanding of the implementation of minimum grading. Refraining from awarding extra credit, permitting retakes/redos, and enacting minimum grading policies were referred to in the literature as practices designed to combat grading inequities (Feldman, 2019b; Guskey, 2020; Guskey & Jung, 2016).

Teacher reactions to the grading expectations established by the district were also mixed. Views expressed by teachers included neutral acceptance and willingness to

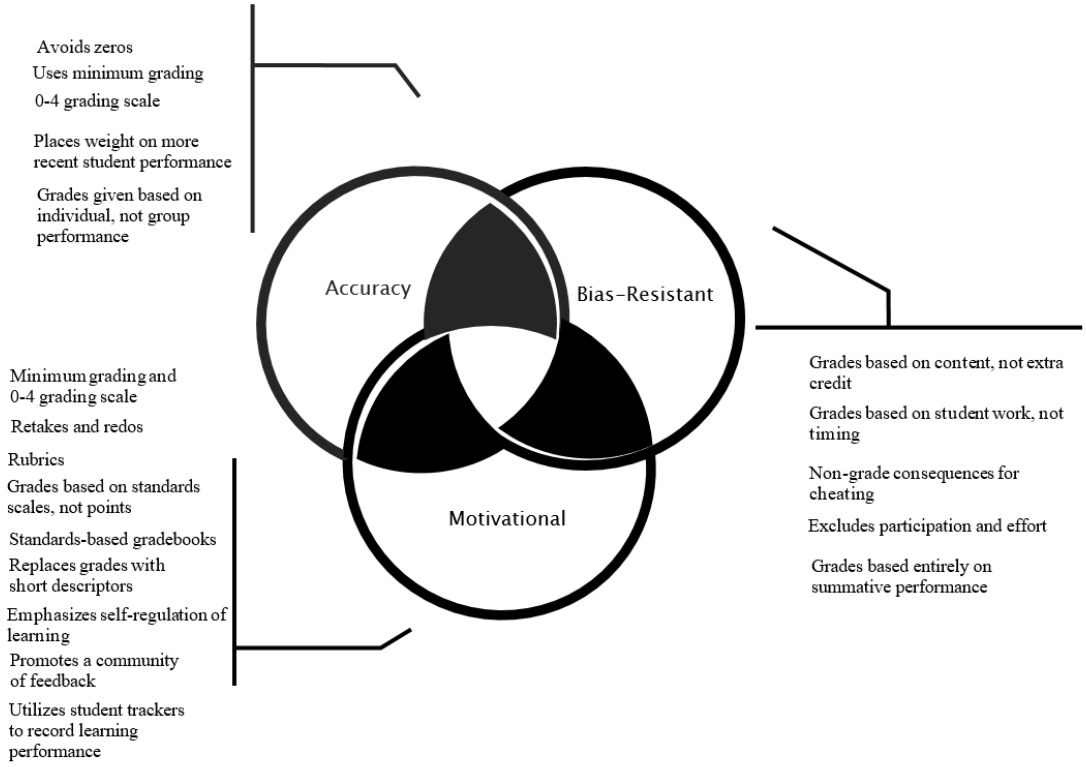
follow district policies as outlined, opposition to specific grading standards, and appreciation for having an explicit set of guidelines. Participant comments about equitable grading included the following: “It’s great in theory and hard to do in practice, and “It sounds really good on paper.” These responses may be indicative of the friction teachers described feeling in earlier studies when trying to comply with recommendations and grading policies while dealing with daily classroom realities (Chen & Bonner, 2017; Widiastuti, 2018).

The one word in the district document that drew both positive and negative responses from teachers was “consistency.” A few teachers seemed to interpret consistent grading practices as disregard for the heterogeneous nature of their classrooms. These teacher responses suggested that teachers may be unsure about how to define the concept of grading equity. In his work concerning equitable grading, Feldman (2019b) explained that teacher resistance to equity and grading reform may be due to teacher fears of losing autonomy over grading decisions and having their professional expertise questioned. Study participants who indicated positive reactions appeared to find the notion of equitable grading acceptable and equated consistent grading with fairness and impartiality.

Connection to Conceptual Framework. Teacher grading practices reported by study participants were compared to the equitable grading framework characterized by Feldman (2019b) as the three pillars. Figure 9 shows the grading practices that represent equitable grading as described by Feldman (2019b, p. 72).

Figure 9

Equitable Grading Practices



Feldman (2019b) considered the three pillars of accuracy, bias-resistance, and motivation to be the “driving principles” (p. 71) that “ground” (p. 72) equitable grading principles. Figure 9 illustrates the overlapping nature of each component. Feldman (2019b) maintained that the pillars and grading practices are equally important and are not intended to stand independently of one another.

An analysis of the survey and interview data showed evidence of equitable grading behaviors such as retakes/redos, following a minimum grading policy, using rubrics, and refraining from taking away points for disruptive behavior; however, many grading practices did not reflect equitable grading behaviors. In contrast to the practices shown in Figure 9, teachers reported deducting points for late work; using percentages on

a 100-point grading scale; considering effort, ability, and participation; grading formative assessments such as homework; awarding extra credit/bonus points; and putting zeroes in the gradebook for failure to submit assignments on time.

Implications. The findings of this investigation complement those of earlier studies. To a great extent, the grading practices implemented by study participants remained traditional in nature. Practices such as grading homework and formative assessments, using zeroes on a 100-point scale, and the inclusion of subjective grading factors contribute to grading inequity (Brookhart, 2003; Erickson, 2010; Guskey 2015; Hattie & Yates, 2014; Marzano 2010; O'Connor, 2011). The most recent state report card information showed that one of the high school sites in District X is designated as Title I and three of the high schools had a poverty index above 50%. These schools are serving a large number of low-income students in high-poverty areas that may be considered underserved. If teachers continue to incorporate these types of grading behaviors into their practices, Feldman (2019b) claimed they could potentially put their underserved students at academic risk and "perpetuate disparities that have been going on for years by race, income, education, background, [and] language" (para. 8).

The research findings indicated that teachers were compliant with district and school policies even when they were not in agreement. Such policies and plans provide a central set of directives for how teachers should assign grades but do not seem to assure proper implementation. Previous research has shown that some of the obstacles encountered by administrators and teachers when implementing grading reforms included a school culture and climate that lacked a common purpose for grading (Bauer, 2015), lack of teacher training, and inconsistent application of grading practices (Greene, 2015).

Simply providing a grading document with equity-friendly language does not guarantee achieving grading equity, and teacher grading behaviors are likely to remain unchanged. Sustainable and effective change cannot be expected to happen immediately. Enacting educational change requires purposeful discussion and a collaborative process to encourage teacher compliance. The district must be prepared to invest in resources that help teachers successfully implement change or run the risk of them abandoning change due to frustration (DuFour et al., 2016).

Overall Impact of the Study

Grading is a professional task that teachers are expected to perform. The literature and the data from this study showed that grades are used to report learning and measure student performance. Researchers also agreed that the recognition students receive and qualifications for awards, scholarships, and honors that are affiliated with grades have the potential to impact students (Feldman, 2019b; Reeves, 2016). Although teachers may be subject to following school or district policies, assigning grading is the one area in which they are typically given professional latitude to make decisions (Reeves, 2008).

Study findings determined that teacher decision-making is influenced by their past experiences, beliefs, and values. These influences were reflected in participants' grading practices. Despite the unequal balance of teachers from each content area represented in the study sample, survey and interview data indicated that participants assigned grades using a combination of factors such as effort, participation, ability, and behavior in addition to achievement. Grading practices that include such a combination of subjective and objective factors may result in an inaccurate representation of student academic achievement.

The data collected from this study indicated that some high school teachers in District X are utilizing aspects of equitable grading practices, yet as prior research and the literature suggested, traditional grading behaviors continue to persist among some content area teachers represented in the sample. These traditional behaviors include using a 100-point grading scale, incorporating nonacademic factors into grades, grading formative assessments, enforcing late policies for work submitted late, assigning zeroes for missing work even after allowing the opportunity to hand it in after the deadline, and awarding extra credit and bonus points. As long as teachers continue to implement such practices, grading accuracy is threatened and students remain at risk of inequitable treatment (Feldman, 2019b; Ledlow, 2022).

Recommendations for Practice

As a result of the data analysis, I prepared several recommendations. Study findings suggested several courses of action need to be taken for grading equity to become a reality. They include developing a formal district grading policy supported by evidence-based grading practices that separate soft skills from academic performance, providing professional development on grading and assessment for teachers and administrators, and communicating with stakeholders about equitable grading principles and practices.

Recommendation 1

My first recommendation is for District X to consider adopting a formal grading policy that reflects best practices recommended by grading experts, eliminating nonacademic factors such as effort, behavior, and participation. Releasing a document using the label “expectations” as opposed to “policy” may give teachers the impression

that following the grading guidelines is optional because it has not been released or shared as a formalized action adopted by the district. Data from this study and a review of numerous past studies conducted by Brookhart (1994) revealed that although teachers aspire to grade fairly, they still tend to combine academic and nonacademic factors to assign grades. This recommendation is consistent with Link's (2019) contention that without "explicit policy provisions" (p. 160), districts and schools will continue to run the risk of being questioned by students and their families regarding grading fairness and accuracy.

In order to eliminate the possibility of perpetuating traditional behaviors that undercut grading equity, a district grading policy should include evidence and research-based grading practices. Guskey (2011) urged districts and school leaders to replace historical grading traditions with "thoughtful and research based alternatives" (p. 21). According to Guskey (2011), formulating such policies will require district administrators and school leaders to familiarize themselves with current grading research so they will be knowledgeable about taking action to do what is best for students.

One of the themes identified when answering Research Question 2 was that teachers viewed the purpose of grading as a way to prepare students for life after high school. Study findings suggested that teachers consider student effort an important grading factor and that they are concerned about students being accountable and responsible in preparation for the real world. In some cases, they used grading practices to penalize or reward, based on their perceptions of student work ethic. These findings may be explained by the belief held by most educators that they must teach students "nonacademic skills and behaviors" (Feldman, 2019b, p. 206) known as "soft skills"

(Feldman, 2019b, p. 206) that are crucial for students to experience success in life. Examples include time management, meeting deadlines, attendance, problem-solving, listening, showing respect, and completing paperwork; however, teachers must remember that what they choose to assess and report is a reflection of their values (Quinn, 2013), and the inclusion of soft skills creates the possibility for inequitable grading issues resulting from mathematical inaccuracy, bias, and a lack of transparency (Feldman, 2019b).

Feldman (2019b) pointed out that although teachers may believe they are doing what is best for students, they are misleading students by combining grades with academic performance. He reasoned that when teachers justify using inequitable grading practices to prepare students for the real world, they are drawing inaccurate parallels between students' school experiences and real life. In fact, Feldman (2019b) stated, "The adult professional world is much more nuanced in its consequences for mistakes and failures than how we represent it in traditional grading practices" (p. 209).

There is no doubt that soft skills are important, and schools across the state have been charged by the Department of Education with preparing 21st century learners with specific knowledge and skills for college and future careers (South Carolina Department of Education, 2023b). I agree with Feldman's (2019b) proposal that rather than refraining from teaching students these behaviors, teachers can connect soft skills with academic success through constructive feedback. Behaviors should not be included when assigning grades, and grading policies should clearly reflect that grades verify student mastery of the content, rather than behaviors such as effort, participation, and attendance. The next step in effectively implementing a formal grading policy is establishing appropriate

systems, services, and support for school leaders and teachers.

Recommendation 2

My second recommendation is that teachers be provided with professional development on grading and assessment. I believe this type of training would be the most impactful for novice teachers, particularly those who are entering the profession outside of a traditional teacher education program. According to Mizell (2010), it is impossible for even undergraduate teacher education programs to provide comprehensive preparation on what teachers need to be effective in the classroom. Upon entering the classroom, teachers who do not receive professional development miss the opportunity to improve their skills and this may negatively affect students (Mizell, 2010).

Link (2019) reported that direct training on grading was a "significant enabler helping schools and districts successfully implement effective grading and reporting practices" (p. 179). It was clear from the survey and interview data that teachers have developed their own grading procedures. In many cases, teachers shared that they had not received any type of preservice or in-service training or professional development on grading and assessment. Without training, teachers tended to develop grading behaviors based on past experiences, grading behaviors modeled after colleagues, or grading behaviors based on district and school directives.

According to adult learning theorist Malcolm Knowles (2020), adults learn differently from children and must have sufficient support that is appropriate for their learning needs when learning new skills. Prior to instituting a policy that teachers are expected to follow, administrators and district leaders must prepare teachers to implement changes by building their capacity. Survey responses from this study indicated that

teachers considered grading as one of the most difficult parts of their teaching roles. Muhammad and Cruz (2019) stressed that because teacher actions have a direct impact on students, it is dangerous for school leaders to assume that even if teachers have a willing attitude to execute mandatory initiatives, they are properly prepared to do so. One study participant even reported that she had not seen the district grading document prior to our interview.

There is a marked difference between informing educators about best practices and confirming that they have the needed knowledge and skills to carry out actions consistent with best practice (Muhammad & Cruz, 2019). Considering that only 29% of teachers nationwide reported being highly satisfied with professional development in their respective districts (Bill and Melinda Gates Foundation, 2014), Muhammad and Cruz (2019) also cautioned against "traditional sit and get" (p. 66) professional development. To achieve meaningful change, they advocated for teachers to become active participants in the process of converting research-based practices into practical applications. Additionally, enlisting adults in new learning requires that they understand the relevance of what they are learning (Knowles, 2020) and understand the rationale (Muhammad & Cruz, 2019) behind the change.

Recommendation 3

The third recommendation is to clearly communicate the rationale for adopting equitable grading practices by engaging in communications with stakeholders at the district and site levels. When leadership fails to provide a rationale to teachers for introducing a policy or initiative, they run the risk of teachers being apathetic, disconnected, or resistant (Muhammad & Cruz, 2019). For example, one teacher

confessed during an interview to not having seen the district grading expectations before our conversation. Another teacher, new to the district, was frustrated with school administrators sharing the document at the beginning of the school year with very little context. This teacher described being given a brief introduction to the grading expectations document by their administrators prior to the first day of school in person and then being told to discuss it among their departments and teams. During interviews, teachers expressed an assortment of reactions to the grading expectations. There were some negative responses shared by teachers, but the majority were positive or neutral in nature. In addition, they seemed to have different ideas about defining equitable grading.

DuFour et al. (2016) suggested that school leaders can help teachers work toward a common purpose by building shared knowledge. The district has declared its commitment to diversity, equity, and inclusion by establishing a department devoted to providing professional development for staff and advising administrators on matters related to diversity, equity, and inclusion. It makes sense for this department to help school administrators lead conversations around the need for grading practices that are truly reflective of student achievement. Before deploying and sharing grading policies, school leaders could lead site-based conversations discussing the information, research, and grading data that led to the development of an equity-focused grading policy. Allowing teachers to have these conversations may lead to a better understanding of equitable grading practices and prompt introspection and self-awareness among teachers about how they grade and assess students.

Recommendations for Future Research

The body of research on grading and teacher grading practices has continued to

expand over the past few decades, but there are several areas that could be explored further. Several recommendations for future research emerged from the study findings. Potential research ideas that warrant further exploration are described in the following sections.

Research Idea 1

One of the themes uncovered from interview data was teacher reliance on colleagues for direction on grading due to a lack of preservice or in-service training and professional development. As a result, some teachers mentioned turning to mentors or lead teachers as grading and assessment role models. I discovered during teacher interviews that there were study participants who entered the teaching profession through alternative certification known as the Program of Alternative Certification for Educators (PACE). These teachers typically hold undergraduate degrees outside of education and do not participate in student teaching within a traditional educational program so they may not receive the same pedagogical training as a traditional educator. Further research could determine valuable insight into the experiences of PACE teachers Referand the development of their grading practices outside of a conventional teacher education program. District and school administrators could use this research to learn more about training that may be needed to better support this group of teachers.

Research Idea 2

This study was designed to explore teacher grading practices and equity implications for high school students. Study participants admitted to using grades as a source of motivation. Teachers appeared to agree that high grades can motivate students to learn and encourage good work. Feedback from interviews implied that teachers assign

grades under the assumption that they may reinforce positive behavior because they compel students to do work that they may otherwise not complete or bother to turn in. Additionally, teachers reported that they considered student effort an important grading factor, and formative assessments such as homework are graded for either completion or accuracy, yet research has not provided evidence that assigning low grades motivates students to exert greater effort or improve their work (Dueck, 2014; Guskey, 2006a; Guskey & Bailey, 2001; Marzano, 2000). It would be helpful to conduct a study on grading equity that includes student perceptions of teacher grading practices. A study that includes students would add to the existing data on grading equity and provide more insight into student perspectives of teacher grading practices and what supports their learning.

Research Idea 3

This research study presented another area in need of further investigation. The sample for this study largely consisted of social studies and English teachers. The predominant number of survey and interview subjects were 40 to 60 years old and female. Most of the participants were also veteran teachers with advanced degrees. Future studies could determine the impact of teacher experience, content area, gender, and race on grading practices. A natural progression of this work is to analyze potential differences in grading practices that may exist when these variables are taken into consideration.

Limitations and Delimitations

One of the study limitations that must be considered was my role as an employee and parent of students in the school district. Another limitation was my own child's

enrollment at one of the school sites included in the study. These limitations may have created bias due to my familiarity with potential research subjects. Survey submissions were anonymous, and I did not use interview participants who were currently teaching my child; however, the honesty of teacher responses and feedback may have been affected by possible prior relationships with participants.

The study sample was also impacted by the number of teachers who chose to participate. This limitation was due in large part to district research guidelines that only allowed me to send two emails for the purpose of recruiting teachers. Despite attempts to contact teachers by email, phone, and through personal contacts, the survey response rate was less than 15%. In addition, the survey and interview questions may not have captured participant perspectives in their entirety. The boundaries for this study were confined to specific research questions. Sites for the study were restricted to high schools in District X. Participants were delimited to certified teachers across content areas responsible for assigning student grades. It is important to note that there was not an equal representation of teachers from all content areas, and because of this fact, it may not be possible to generalize the findings to all teachers in this district. Although many of the findings from this study mirror findings in the literature, because the study was bound by the district participants, it is also not possible to generalize findings to teachers from other sites or districts. These factors provide further context for interpreting study findings.

Conclusion

In this chapter, I discussed the research findings to the questions that guided the study. I provided study implications, shared the overall impact of the study, made recommendations for practice, and described ideas for future research. Much has been

published and shared by experts warning educators about problems within traditional grading systems, yet issues with grading variability and reliability continue to exist. Achieving equitable schools and classrooms will require challenging historical notions about grading that are still entrenched in teacher practices. In summary, continued efforts are needed to make grading practices more equitable so that all students may be given a fair opportunity to meet learning expectations.

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Appendix A

Interview Consent Form

Gardner-Webb University IRB

Informed Consent Form for Interviews

Title of Study
Making the Grade: An exploration of secondary teacher grading practices and equity implications for high school students.

Researcher
Pamela Williams, EdD Candidate/College of Education

Purpose
The purpose of this study is to explore secondary teachers' (grades 9-12) perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. I wish to understand how teachers perceive and develop their grading practices and how these behaviors may impact the ability of students to demonstrate their learning.

Procedure
What you will do in the study:
When you enter into the study, you will be asked to participate in a virtual interview. This interview will be recorded with your consent. I will ask you questions related to how you view your grading practices and how you developed these grading behaviors. You will also be asked to discuss the factors you consider when grading student work and your beliefs about the purpose of grading. The interview will consist of 9 questions. If at any point you choose not to continue the interview, I will stop and any data you provided during the interview will be destroyed. The interview will be recorded, and a transcript will be produced to analyze the data.

Time Required
The interview is expected to require about 1 hour of your time.

Voluntary Participation
Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identified state.

Confidentiality
The information that you give in the study was handled confidentially. Your data was anonymous which means that your name will not be linked to the data. I will keep the data confidential, and password protected. I will delete interview transcripts three years after the study is complete. Your name will not be used in any report. Participant data will be kept confidential except in cases where the researcher is legally obligated to

report specific incidents. These incidents include abuse and suicide risk. I will make every effort to preserve your confidentiality by doing the following:

- I am the only one who will have access to the interview videos and transcripts.
- Any summaries of interview content or direct quotations from the interview will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify you is not revealed.
- I will identify teachers and schools using pseudonyms such as Teacher 1, 2, 3, 4, and School A, B, C, D, and E.
- I will save information on a password-protected computer and storage device.
- Any information stored on a password-protected computer will only be accessible by me.
- The interview recording and transcript will be destroyed three years after the study is complete.

Risks

There are no anticipated risks in this study, however, it is possible that you may feel uncomfortable discussing your feelings around your grading practices and procedures. Any information you provide will remain confidential and secure. Your participation is voluntary, and you may choose to stop the interview at any time.

Benefits

There are no direct benefits associated with participation in this study. The study may help us to understand how traditional grading practices may serve as equity barriers for students. The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants.

Payment

You will receive no payment for participating in the study.

Right to Withdraw from the Study

You have the right to withdraw from the study at any time without penalty. If you choose to withdraw from the study, your video recording was destroyed.

How to Withdraw from the Study

If you want to withdraw from the study during the interview, you may tell me to stop the interview at any time. There is no penalty for withdrawing. If you would like to withdraw from the study after the interview has been conducted, please contact me at pwilliams12@gardner-webb.edu.

If you have questions about the study, contact:

Pamela Williams
EdD Candidate
College of Education, Gardner-Webb University

(803) 422-0843
pwilliams12@gardner-webb.edu

Dr. Jennifer Putnam
Faculty Research Advisor
College of Education, Gardner-Webb University
(704) 406-2015
jputnam2@gardner-webb.edu

If the research design of the study necessitates that its full scope is not explained prior to participation, it was explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.

Dr. Sydney K. Brown
IRB Institutional Administrator
Gardner-Webb University
Telephone: 704-406-3019
Email: skbrown@gardner-webb.edu

Voluntary Consent by Participant

I have read the information in this consent form and fully understand the contents of this document. I have had a chance to ask any questions concerning this study and they have been answered for me. I agree to participate in this study.

_____ **Date**: _____
Participant Printed Name

_____Date: _____
Participant Signature

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

Appendix B

Interview Protocol and Questions

Teacher Interview Protocol and Questions

Date:

Time of Interview:

Interviewer:

Interviewee:

Introduction: Thank you for agreeing to participate in this research study. My name is Pamela Williams and I work as an X at X High School. I am also a doctoral student at Gardner-Webb University completing a degree in curriculum and instruction. This interview is a part of the data collection for my research study. You may have completed a survey on teacher perceptions of grading practices. This interview is being used to collect additional data for the study. Teachers in grades 9-12 from other district high schools were also invited to participate in these interviews.

Purpose: The purpose of this research study is to explore secondary teachers' perceptions about their grading practices, the evolution of their grading behaviors, and the alignment of these grading behaviors with equitable grading principles. I wish to understand how teachers perceive and develop their grading practices and how these behaviors may impact the ability of students to demonstrate their learning. I will ask you questions related to how you view your grading practices and how you developed these grading behaviors. You will also be asked to discuss the factors you consider when grading student work and your beliefs about the purpose of grading. Like the survey, this interview is voluntary, and you received a consent form to confirm your participation. Do you have questions about the consent form you reviewed and signed before this interview?

For this study, grading practices are defined as all activities in which teachers engage that result in marks or grades assigned to students. I have several questions I will ask you. I want to remind you that responses will remain confidential. Your candid and honest feedback is welcome and will only be shared for the purpose of reporting study findings. I will record this session and take notes that I will transcribe for data analysis. Videos and transcripts will be password protected and all data destroyed three years after study completion. Do you have any questions for me before we begin?

To start, I'd like to ask you some basic demographic questions.

Teacher Demographic Data:

How many years of teaching experience have you had (including this current year)?

What is your current teaching assignment?

What grade levels do you teach?

What level (e.g., BS, MS) of professional education have you attained?

Interview Questions:

1. What do you believe is the purpose(s) for assigning student grades? Prompt: What do you believe grades represent? What do you believe about the role of grading?
2. Describe the relationship between assigned grades and student learning. Prompt: Can you explain your thoughts? Why do you feel this way?
3. Now I would like to talk to you about grading practices. For each practice, I am curious what your thoughts are about it, whether you use or have ever used that practice, and anything else you would like to share. How do you feel about students redoing assignments or retaking assessments to improve their grades? How do you feel about grading homework? How do you feel about grading

formative assessments? How do you feel about taking away points for late work? How do you feel about awarding extra credit or points on assignments? How do you feel about including compliance with classroom rules in the grading process? How do you feel about students receiving a minimum grade cut score on their report cards? Is there anything else you would like to add about grading practices?

4. Now that we have talked broadly about grading practices, I'm interested in learning about your specific grading practices. These are procedures or processes you follow when you are grading based on your beliefs and knowledge about the purposes of grades. How would you explain your grading practices? Prompts: What policies do you follow when you assign grades? How do you handle missing or late work? What is your policy for grading homework? Is behavior a factor when you assign grades? How do you handle extra credit and bonus points? Do you use specific grading tools such as rubrics and performance levels to calculate grades? Are there other grading practices that you use that you would like to share and discuss?
5. How did you acquire the practices you use to grade student work? Prompts: Describe any pre-service training you had with grading and assessment. What in-service training have you had on grading and assessment? What type of grading and assessment professional development have you had?
6. How have your grading practices changed since you began your teaching career? Prompts: Can you tell me more about what led to the change in your grading practices? What factors have influenced these changes?

7. Now I would like to refer to the K-12 grading guidelines created by the district for teachers to follow. How would you describe your reaction to these grading expectations? Prompt: Can you tell me more about your thought(s)?
8. Next I would like to know more about your reaction to specific statements in the district grading document. The district grading expectations state: Grading should be an assessment of student learning: a consistent and equitable process across our district. What is your reaction to this statement? Prompt: Can you share more about your thoughts?
9. The district grading expectations state: Grades should not be a punitive discipline tool nor merely a function of student participation and effort. What is your reaction to that statement? Prompt: Why do you feel this way?
10. The district grading expectations state: Grading is one of many forms of feedback to assess student growth and is a dynamic and fluid component of learning. What is your reaction to that statement? Prompt: Why do you feel this way?

Conclusion:

Is there anything I haven't asked you that you would like to share about grading or assessment?

Your time and participation in this study are greatly appreciated! I would like to remind you that your interview responses will remain confidential. Upon conclusion and successful defense of my study, would you like to receive a summary of the findings?

Appendix C

Teacher Perceptions of Grading Practices Survey

Teacher Perceptions of Grading Practices Survey

Directions: This survey should take approximately 10 minutes to complete.
Part I: Please indicate your level of agreement with each of the following statements by selecting one of the following responses. Please select only one response per question.
Response key:
Strongly disagree
Disagree
Neutral
Agree
Strongly agree

For this study grading is defined as all activities in which teachers engage that result in marks or grades assigned to student work

Grading is an important criterion for judging students' progress.
Grading has an important role in classroom assessment.
Grading has a positive effect on students' academic achievement.
Grades are important measures of student learning.
Grades are important measures of student achievement.
Grading has a strong impact on students' learning.
Grading helps me categorize students as above average, average and below average.
Grading can help me improve instruction.
Grading can encourage good work by students.
Grading helps me in deciding what curriculum to cover.
Grading is a good method for helping students identify their weaknesses in a content area.
Grading can keep students informed about their progress.
Grading provides information about student achievement.
Grading documents my instructional effectiveness.
Grading provides feedback to my students.
High grades can motivate students to learn.
I consider student effort when I grade.
I give higher report card grades to students who show greater effort.
I will pass a failing student if he or she puts forth effort.
Grades are based on students' completion of homework.
Grades are based on the degree to which students participate in class.
Grades are based on a student's improvement.
I consider student ability in grading.
Grades are based on students' problem-solving ability.
Grades are based on students' critical thinking ability.
Grades are based on students' independent thinking ability.
Grades are based on students' collaborative learning ability.
Grades are based on students' writing ability.
I tend to use letters (e.g., A, B, C) rather than numbers (e.g., 95%) in grading.
If a student fails a test, I will offer him/her a second chance to take the test.

I often give students opportunities to earn extra credit.
I often look at the distribution of grades for the whole class after I finish grading.
I have my own grading procedure.
I often confer with my colleagues on grading criteria.
Grading is the easiest part of my role as a teacher.
It is easy for me to recognize strong effort by a student.
It is easy for me to assess student achievement with a single grade or score.
It is easy for me to rank students in terms of achievement when I am grading.
It is difficult to measure student effort.
Factors other than a student's actual achievement on a test or quiz make it difficult for me to grade.

Part II: Please respond to the following questions.

1. What factors do you consider when you assign final grades for a marking period or a semester? (Check all that apply.)

- ○ Formal achievement measures (for example, tests/quizzes)
- ○ Student effort/hard work
- ○ Student ability
- ○ Classroom behavior (for example: positive OR disruptive behavior)
- ○ Attendance/participation
- ○ Other (please specify)

2. How often do you give quizzes that count for a grade? (Select one answer)

- ○ At least once a week
- ○ About once every two weeks, but not every week
- ○ About once a month
- ○ Sometimes, but less than once a month

3. How often do you give minor assignments that count for a grade? (Select one answer)

- ○ About everyday
- ○ Several times each week, but not everyday
- ○ About once a week
- ○ About once every two weeks, but not every week
- ○ About once a month
- ○ Sometimes, but less than once a month

4. How often do you give major tests or exams that count for a grade? (Select one answer)

- ○ At least once a week
- ○ About once every two weeks, but not every week
- ○ About once a month
- ○ Sometimes, but less than once a month

Part III: Please provide the following demographic information.
I am (select one): ☐ Female ☐ Male

School Name:
Content Area:
Grade Level:
Age: ☐20-30 ☐ 30-40 ☐ 40-50 ☐ 50-60 ☐ 60+
I have the following degrees: ☐ Bachelor's ☐Bachelor's+30 ☐ Master's ☐ Doctorate
I have been teaching for: ☐Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years ☐ 20+ years

Thank you for your time and participation!

This survey was used and adapted with permission (Xing Liu, 2007).

Appendix D

Email Consent Form to School Administrator and Teachers

Dear Principal _____:
I am a doctoral student at Gardner-Webb University completing a dissertation in the curriculum and instruction program. The purpose of my study is to explore secondary teachers' perceptions about their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. I wish to understand how teachers perceive and develop their grading practices and how these behaviors may impact the ability of students to demonstrate their learning. My research is being supervised by my dissertation advisor, Dr. Jennifer Putnam, Associate Dean, College of Education and Coordinator for the EdD in Curriculum and Instruction Program. I am seeking permission to contact teachers as potential research participants to complete surveys and interviews that would assist me in gathering data for this study.

This research study has been approved by the Gardner-Webb Institutional Review Board and the school district. All data associated with this study will remain anonymous and I will follow all guidelines as outlined by the Institutional Review Board.
Please reply to this email to grant permission to carry out my research with teachers at your school site.

If you have any questions or concerns concerning this research study please call/email Pamela Williams at ext. 79847, email: pwilliams12@gardner-webb.edu or Dr. Jennifer Putnam (Dissertation Committee Chair) at (704) 406-2015.

Pamela Williams
Doctoral Candidate
Gardner-Webb University

Dear Teacher,

I am sending this email to invite you to participate in a research study. The purpose of this study is to explore secondary teachers' (grades 9-12) perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. Participation in this study is completely voluntary and I will not know if you decide to participate or not.

Please read the Informed Consent information below. If you would like to participate in the survey and/or individual interview, click on the links at the end of the Informed Consent Form. If you do not wish to participate in the survey or interview, you may close this email.

Thank you,
Pamela Williams

Gardner-Webb University IRB
Informed Consent Form for Online Survey
Making the Grade: An Exploration of Secondary Teacher Grading Practices and Equity Implications for High School Students

The purpose of this study is to explore secondary teachers' (grades 9-12) perceptions of their grading practices, the evolution of their grading behaviors, and the alignment of these grading practices with equitable grading principles. As a participant in the study, you will be asked to complete a Teacher Perceptions of Grading Practices online survey. The survey consists of 44 items, and you will also be asked to provide demographic information. The survey is expected to require about 10 minutes of your time. Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. The information that you give in the study will be handled confidentially. Your data was anonymous, meaning your name will not be collected or linked to it. There are no anticipated risks in this study. You will receive no payment for participating in the study. You can withdraw from the study at any time without penalty by exiting the survey. Data from this study may be used or distributed for future research studies.

<u>If you have questions about the study, contact:</u>

Pamela Williams
EdD Candidate
College of Education, Gardner-Webb University
(803) 422-0843
pwilliams12@gardner-webb.edu

Dr. Jennifer Putnam
Faculty Research Advisor
College of Education, Gardner-Webb University
(704) 406-2015
jputnam2@gardner-webb.edu

Dr. Sydney K. Brown
IRB Institutional Administrator
Telephone: 704-406-3019
Email: skbrown@gardner-webb.edu

Clicking the link to the survey indicates your consent to participate in the study.

Clicking this link indicates your interest in participating in an individual interview.

If you are not 18 years of age or older or you do not consent to participate, please close this window.

Appendix E

Permission to Use Study Instrument

Dear Dr. Liu,

I am a doctoral student at Gardner-Webb University completing a dissertation in the curriculum and instruction program. I am writing to ask for permission to use the Teacher Perceptions of Grading Practices (TPGP) survey instrument in my research study. My study will explore secondary teachers' perceptions about their grading practices, the evolution of their grading behaviors, and the alignment of these grading behaviors with equitable grading principles. I wish to understand how teachers perceive and develop their grading practices and how these behaviors may impact the ability of students to demonstrate their learning. My research is being supervised by my dissertation advisor, Dr. Jennifer Putnam, Associate Dean, College of Education and Coordinator for the EdD in Curriculum and Instruction Program.

I plan to use the entire instrument; however, I may modify and adapt questions to accommodate my research study. I will use the survey to determine how teachers view the purpose of grading and factors they consider when assigning grades. The survey will be delivered electronically to teachers and statistical software will be used to analyze the results.

I would also appreciate receiving copies of any supplemental survey material that will help me administer the survey and score the results.

In addition to using the instrument, I am also seeking your permission to reproduce it in my dissertation appendix. The dissertation will be published in the Gardner-Webb University digital commons and deposited in the ProQuest Dissertations and Theses database.

I would like to use and reproduce your TPGP survey under the following conditions:

· I will use the survey only for my research study and will not sell or use it for any other purposes.
· I will include a statement of attribution and copyright on all copies of the instrument. If you have a specific statement of attribution that you would like me to include, please provide it in your response.
· At your request, I will send a copy of my research study to you upon completion of the study and/or provide a hyperlink to the final manuscript.

If you do not control the copyright for these materials, I would appreciate any information you can provide concerning the proper person or organization I should contact.

If these are acceptable terms and conditions, please indicate so by replying to me through e-mail at pwilliams12@gardner-webb.edu.

Sincerely,

Pamela Williams

This permission letter has been adapted with permission from:

· Appendix E of the Senior Thesis Handbook (2009-2010), Psychology Department, Dominican University of California Simon, M. K. (2011).

Dissertation and scholarly research: Recipes for success (2011 Ed.). Seattle, WA, Dissertation Success, LLC. http://dissertationrecipes.com/wp-content/uploads/2011/04/Permissions.pdf

RE: Request permission to use survey

Liu,Xing (Education) <liux@easternct.edu>
Thu 8/25/2022 11:15 AM
To: Pamela Williams <pwilliams12@gardner-webb.edu>

CAUTION: This email originated from outside of the Gardner-Webb.edu domain. Do not click links or open attachments unless you verify that the links and/or attachments are safe.

Dear Pamela,

Thank you for your interest in the TPGP instrument. You have my permission to use and revise it. Please feel free to revise it since it was developed 16 years ago.

Best,

Xing

Xing Liu, Ph.D.
Professor, Research and Assessment
Education Department
Eastern Connecticut State University
Webb Hall 153
83 Windham Street
Willimantic, CT 06226
(860) 465-5167
liux@easternct.edu

From: Pamela Williams <pwilliams12@gardner-webb.edu>
Sent: Thursday, August 25, 2022 11:04 AM
To: Liu,Xing (Education) <liux@easternct.edu>
Subject: Request permission to use survey

Caution: This email originated from outside of Eastern.

Hello Dr. Liu,
I am writing to ask permission to use your TPGP survey for my dissertation study. My formal request for permission is attached to this email, I look forward to hearing from you. Thank you for your consideration!

Pamela Williams
EDCI Doctoral Student
Gardner-Webb University