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Teacher Attitudes on Assessing Student Effort

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Abstract

Research indicates that there are classroom practices teachers can implement to help students develop non-cognitive skills such as the ability to persevere and tackle challenging work. After consulting the literature, there is a clear lack of research measuring teacher attitudes and beliefs about pedagogical practices that promotes resilience and perseverance. Research suggests that teachers' beliefs and attitudes shape the learning environment and impact student outcomes (Brackett et al., p. 232). Therefore, it is critical to understand teacher comfort and commitment to initiatives, as well as their perceptions on how school culture supports such practices. Understanding teacher attitudes and beliefs can help administrators make decisions on the timing, type, and amount of teacher training if the school is committed to efforts to teach these skills (Brackett et al., p. 232). I conducted this mixed methods action research study using a cross-sectional survey design to gather and evaluate quantitative and qualitative data on variables regarding Grade 7-12 teacher attitudes and classroom practice aimed at promoting increased student effort. The data suggests real-life obstacles faced by teachers and provides valuable discussion points on assessment and grading practices. Study limitations, implications for practice, and suggestions for further research are discussed.

Table of Contents

Chapter 1: Introduction

Background

As a teacher, I am interested in learning best classroom practices that may foster a climate of effort and perseverance in order to promote academic achievement. My interests led to a literature review that examined research into themes of helping students develop non-cognitive skills such as growth mindset and resilience.

According to Schunk (2012), "attribution theory explains how people view the causes of their behaviors and those of others" (p. 366). In 1971, Weiner et al. "postulated that students attribute their academic successes and failures largely to ability, effort, task difficulty, and luck" (p. 368) and conducted a series of studies that provided a base for developing an attributional theory of achievement (p. 368). According to Schunk (2012), "attribution theory has had a tremendous impact on motivation theory, research, and practice" (p. 371). Schunk explains that students' dysfunctional judgements about their abilities, effort, and strategies may lead to low levels of motivation (p. 371). An aspect of attribution theory is *locus of control* (p. 367). Schunk states that locus of control is "important in achievement contexts because expectancy beliefs are hypothesized to affect behavior" (pg. 367). According to Lefcourt and Phares (1976), students who believe they have control over success and failure will be more likely to engage in academic tasks and put forth effort than students who believe their behavior has little impact on outcomes. "In turn, effort and persistence promote academic achievement" (p. 367).

According to David Yeager and Carol Dweck's research rooted in attribution theory, all students face adversity at some point, and their reaction to adversity, or their level of resiliency, may in part explain their level of academic success. Research indicates that there are classroom

practices that teachers can implement to help students tackle more challenging work without feeling threatened by failure. Dweck posited in 2010 that teachers must make efforts to create a growth mindset culture in the classroom, one in which persistence and effort is praised.

While the research indicates that there are classroom practices teachers can implement to help students tackle more challenging work, there is a lack of literature addressing teacher attitudes and beliefs on such practices as teaching persistence and rewarding effort. According to Brackett et al. (2012), teacher attitudes toward the effectiveness of incorporating social and emotional skill development into their practice can affect the buy-in, implementation, and impact of such initiatives (p. 220). Because teachers are delivering the instruction in the classroom, their beliefs and attitudes will shape the learning environment and impact student outcomes. Therefore, it is critical to understand teacher comfort and commitment to initiatives as well as their perceptions on how school culture supports such practices. Understanding teacher attitudes and beliefs can help administrators make decisions on the timing, type, and amount of teacher training if the school is committed to efforts to teach these skills (Brackett et al., p. 232).

Statement of the Problem

Previous research has indicated that there are classroom practices teachers can implement to help students develop a growth mindset and the ability to persevere and tackle more challenging work. However, there is a lack of literature addressing teacher attitudes and beliefs on practices as teaching persistence and rewarding effort. Therefore, the research problem is to investigate teacher attitudes and beliefs toward practices that teach persistence, resilience, and encourage risk-taking.

Purpose of the Study

The purpose of this study is to contribute to the existing literature on growth mindset and classroom practices that reward effort by investigating teacher attitudes and beliefs toward teaching persistence, resilience, and encouraging students to take academic risks.

According to Brackett et al. (2012), teacher attitudes toward the effectiveness of incorporating social and emotional skill development into their practice can affect the buy-in, implementation, and impact of such initiatives (p. 220). Because teachers are delivering the instruction in the classroom, their beliefs and attitudes will shape the learning environment and impact student outcomes. Therefore, it is critical to understand teacher comfort and commitment to initiatives as well as their perceptions on how school culture supports such practices. Understanding teacher attitudes and beliefs can help administrators make decisions on the timing, type, and amount of teacher training if the school is committed to efforts to teach these skills (p. 232).

Significance of the Study

To understand teaching growth mindset, it is important to look at teaching non- cognitive factors such as perseverance and effort. The significance of this study lies in providing insight into teachers' beliefs and attitudes on teaching perseverance and effort as well as classroom practices that reward effort so that there is a greater understanding on the beliefs and current practice that shape learning environments and impact student outcomes. This knowledge may prove useful to curriculum directors as best practices for instruction and assessment are reviewed.

I met with three directors of curriculum departments currently in the process of moving toward assessing performance levels and therefore particularly interested in learning about teacher perception on increased rigor, assessment, and grading practices. Ideally, the outcome of

my research will generate data that reflects teacher attitudes and classroom practices at Nutmeg High School and Nutmeg Middle School in regards to teaching resilience as well as fostering a mindset where failure is perceived by students as an opportunity for growth and in which effort equals success.

Research Design

This study used an action research design to examine teacher attitudes toward classroom practices aimed at promoting increased student effort. The methodology used was mixed methods design. According to Creswell (2015), the "basic assumption is that the use of both quantitative and qualitative data methods, in combination, provides a better understanding of the research problem and questions than either method by itself" (p. 537). An action research design allowed me to collect and analyze data that provided feedback, specifically applicable in my district to directors in three different departments currently reviewing instructional and assessment practices, regarding: 1) current teacher attitudes and beliefs toward practices that teach persistence, resilience, and encourage risk-taking; and 2) current implementation of instructional and/or assessment practices that encourage students and incorporate challenge as opportunities for students to learn from mistakes.

Sample Selection and Assignment

The town in which the context of the research took place is located in New England, and has a population of 34,685 (as of 2014-15). In the public school district, there is one middle school serving Grade 7-8 and one high school serving Grade 9-12. In the 2015-16 school year, there were 1,036 students enrolled at the middle school and 2,037 students enrolled at the high school. The target population of my study is Grade 7-12 teachers, and the sample that I studied consisted of the Grade 7-12 teachers in the English Language Arts, Foreign Language, and Math

Departments. These departments were selected because they are in the process of moving toward assessing performance levels and therefore particularly interested in learning about teacher perception on increased rigor, assessment, and grading practices. Selecting three departments across middle and high school levels helped reduce sampling error and obtain data that is representative of the target population. Specific teacher totals for the sample were thirty-three English teachers for Grade 7-12, thirty-two Foreign Language teachers for Grade 7-12, and thirty Math teachers for Grade 7-12.

Data Collection Methods and Procedures

Quantitative and qualitative data collection methods were used to collect data for this mixed methods action research design in order to answer four research questions (See Section F). Specifically, data was obtained through close-ended and open-ended survey questions as well as interviews.

In order to gather and evaluate quantitative data on variables regarding teacher attitudes and classroom practice, I used a cross-sectional survey design. A cross-sectional survey design is ideal for a study at one point in time and allowed me to "examine such variables as current attitudes, beliefs, opinions, or practices" (Creswell 2015, p. 380). In order to adapt an existing survey that was based on Carol Dweck's research and designed to measure growth mindset in regards to learning mathematics, I worked in collaboration with department directors and a research mentor to craft statements and questions that would answer the research questions in this study. I also worked with a research teacher at the high school to be sure my survey questions would result in a reliable survey tool, did not contain jargon or bias, and would warrant the responses to the research questions.

The survey contained ten close-ended statements on which participants were asked to agree or disagree using a 4-point Likert Scale that asked teachers to respond to statements with (1) Strongly Disagree, (2) Disagree, (3) Agree, or (4) Strongly Disagree. Additionally, two open-ended questions on the above-described teacher survey provided qualitative data by allowing participants to elaborate on their opinion in their own words.

Department directors agreed to provide time at a department meeting for teachers to complete the survey in order to support a high rate of response, and I was present in case there were questions. The survey was available on Google Forms, a tool which allows me to email the survey to each individual teacher, collect the data in an anonymous fashion, and analyze the data by variables. On the morning of each of the department meetings, I emailed a copy of the survey to each participant along with a note reminding them that time would be provided and that I would be available in-person for questions.

Data Analysis Methods

The quantitative and qualitative data collected for this project was analyzed in order to understand teacher attitudes toward classroom practices aimed at promoting increased student effort. The quantitative data resulting from the close-ended survey responses was uploaded into the *Statistical Package for the Social Sciences (SPSS)* software program. Using SPSS, the data was organized by grade level and department and descriptive statistics were used to analyze the trends in the data. Descriptive statistics revealed tendencies in the data, such as mean, and the spread of scores, such a standard deviation (Creswell, 2015). The coding process was used to analyze and evaluate the *qualitative data* gathered from the open-ended questions and interviews using Microsoft Word and NVivo software. As a result of these analysis methods, observations

for discussion were made regarding teachers' beliefs toward teaching and assessing student effort.

Reliability and Validity

Reliability and validity of the data collected was determined through several methodological approaches. To ensure reliability and validity, I used pilot testing and peer debriefing. To carry out pilot testing, two colleagues completed and evaluated the survey, both from the same school district and grade level as the participants, but from departments that did not take part in the study. Both of these colleagues provided useful feedback that enabled me to edit the survey for clarification. To carry out peer debriefing, I shared my survey instrument with a colleague who teaches an Advanced Research Methods course at Nutmeg High School and a NHS assistant principal (both considered experts in the field of educational research) as well as a "critical friends" group in my EDL 690 course. Each reviewed and evaluated my research purpose, research questions, and the survey questions and scoring instrument to check for alignment and bias and help ensure that my plan to interpret findings seemed reasonable.

Research Question

The purpose of this section is to rephrase the research problem as a focused research question (Capella University, 2008, p.5). The research problem was to address the gap in the existing literature regarding teacher attitudes and beliefs toward practices that teach persistence and resilience. The purpose was to explore teacher attitudes toward classroom practices that encourage students to put forth effort and view struggle as opportunities for growth. The following research questions guided this study:

1. Do teachers at Nutmeg High and Middle School believe that teaching persistence and resiliency skills in the classroom improves academic success?

2. Do teachers at Nutmeg High and Middle School believe that creating a classroom culture in which making mistakes (or struggling) is valued as an opportunity for growth reduces incidents of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging?
3. Are teachers at Nutmeg High and Middle School currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes?
4. Do teachers at Nutmeg High and Middle School believe that it is "best practice" to incorporate effort and persistence into a student's grade or to allow the grade to represent the student's knowledge of the content?

Assumptions & Limitations

As an action research project, the data generated from this study is unique to Nutmeg High and Middle Schools; therefore the data is not transferable to every school in the state or country. However, the methodology in this study may be transferrable to other schools looking to explore teacher attitudes toward classroom practices that encourage students to put forth effort. The methodology of using descriptive statistics to analyze the quantitative data gathered from close-ended questions and using a coding process to evaluate qualitative data gathered from open-ended questions may be useful to other schools looking to generate data for discussion regarding teachers' beliefs toward teaching and assessing student effort. Additionally, this study's findings may be instructive to other schools that are seeking information on teacher attitudes and classroom practices in regards to teaching persistence and resilience as well as fostering a mindset where failure is perceived by students as an opportunity for growth.

Expected Findings

After reviewing the literature on growth mindset and classroom practices that reward effort, I found that the existing research indicates that there are classroom practices teachers can implement to help students develop a growth mindset and non-cognitive skills such as the ability to persevere. I expect that my research will match existing research regarding the value of helping students develop a growth mindset and non-cognitive skills such perseverance. I expect to find that teacher attitudes and beliefs toward practices that teach persistence, resilience, and encourage risk-taking will vary among teachers at Nutmeg High and Middle Schools at different grade levels and content areas. I also expect at Nutmeg High and Middle Schools to gather data that will lend information to the discussion of moving toward assessing performance levels, increased rigor, assessment, and grading practices.

Chapter 2: Literature Review

Student non-cognitive skills such as making responsible decisions and constructively handling challenging situations impact levels of academic engagement, work ethic, and academic success (Brackett et al., 2012). Non-cognitive skills are developed by direct teaching and modeling, and providing students the opportunity to practice and apply these skills. Educational systems that teach non-cognitive skills have seen increased student contributions in class, increased motivation, and improved academic performance (Durlak et al., 2011).

This literature review specifically examines research on resiliency and growth mindset. A literature search through the database Educational Resources Information Center (ERIC) resulted in numerous resources. The keyword "resilience" resulted in 3,319 items; however, limiting my search to peer reviewed journal articles between 2002-2016 reduced the number to 1,942. The rationale for my 2002-2016 timeframe was that an organization called *Partnership for 21st Century Learning* (P21) was founded in 2002 in order to focus on 21st century readiness as the center of k-12 education. In addition to "resilience", I searched the keywords growth mindset, social emotional learning, academic achievement, failure, grading policies, perseverance, and effort. Searches with these key terms resulted in a variety of articles that are relevant to resilience and student success.

Theoretical Orientation

According to Schunk's *Learning Theories: An Educational Perspective* (2012), "attribution theory explains how people view the causes of their behaviors and those of others" (pg. 366). In 1971, Weiner et al. "postulated that students attribute their academic

successes and failures largely to ability, effort, task difficulty, and luck" and conducted a series of studies that provided a base for developing an attributional theory of achievement (pg 368).

Julian Rotter's research in 1966 provides some background as Rotter's *locus of control* incorporated attributional concepts. "People believe that outcomes occur independently of how they behave (*external locus of control*) or that outcomes are highly contingent on their behavior (*internal locus of control*)" (Shunk, pg. 367). Using the work of Heider (1958) and Rotter (1966), Weiner and colleagues developed a model of causal attribution in which causes are understood along two dimensions: internal or external to an individual; and stable or unstable (pg. 369). Ability is internal and stable, but uncontrollable. Effort is internal and controllable, but stable only in regards to typical effort; immediate effort is unstable. Task difficulty is external and stable, but uncontrollable; whereas luck is external and uncontrollable, as well as unstable (p. 369).

In 1976, Phares noted that locus of control may be situational. "It is not unusual to find students who generally believe they have little control over academic successes and failures but also believe they can exert much control in a particular class because the teacher and peers are helpful and because they like the content (pg. 367). "Locus of control is important in achievement contexts because expectancy beliefs are hypothesized to affect behavior" (pg. 367). According to Lefcourt and Phares (1976), students who believe they have control over success and failure will be more likely to engage in academic tasks and put forth effort than students who believe their behavior has little impact on outcomes. "In turn, effort and persistence promote academic achievement" (p. 367).

According to David Yeager and Carol Dweck's research, published in 2012 and rooted in attribution theory, all students will face adversity at some point, whether it be academic and/or

social and emotional. Students' reaction to adversity, or their level of resiliency, may in part explain their level of academic success. While parents and educators aim to prepare students for real-world challenges, some common practices such as praise for intelligence may undermine resilience skills (p. 311). This literature review examines research into the themes of helping students develop growth mindset and resilience, and fostering a climate of effort and perseverance.

Review of Research Literature

Growth Mindset

According to Carol Dweck, a leading researcher in the field of motivation and the Lewis and Virginia Eaton Professor of Psychology at Stanford University, *growth mindset* is the belief that you can improve upon your abilities through practice and effort, as opposed to a *fixed mindset* in which one believes their abilities are unchangeable. Students with *fixed mindset* believe intelligence is static and tend to desire *looking* smart; therefore, they avoid challenges, give up easily, see effort as fruitless, ignore useful feedback, and are threatened by others' success. Students with a fixed mindset report feeling dumb when they have to work hard, are more likely to become discouraged or defensive, may avoid opportunities that will require risk of doing poorly, may blame others for difficulties, lie about their scores, or even consider cheating (Dweck, 2006). Dweck noted that students with a *growth mindset* recognize that "even geniuses have to work hard to develop their abilities and make contributions" (Dweck, 2010, p. 17). Students with a growth mindset believe intelligence can be developed, which leads to a desire to learn and a tendency to embrace challenge, persist despite obstacles, see effort as a way to achieve mastery, learn from criticism, and be inspired by others' success (Dweck, 2006).

Yeager & Dweck's research (2012) suggests two theories of intelligence - one promoting resilience and the other not promoting resilience. Entity theory (fixed mindset) is about measuring ability and involves threats and defenses. Incremental theory (growth mindset) is about learning. In incremental theory, challenges and setbacks are perceived as helpful and there are opportunities to improve. Which theory students believe in will shape their perceptions about goals (eager to learn or eager to avoid looking dumb?), effort (a way to succeed or does it reveal a lack of talent?) and learning strategies (should they work hard or give up or cheat?). Their 2012 research showed that students who identify with incremental theory tend to be more resilient and earned better grades when faced with challenge (p. 304).

Resiliency

Resilience can mean different things: assessing situations without distorting them, bouncing back from adversity, or thriving despite at-risk environments. In general though, resiliency means having a positive response to failure or challenge (Perkins-Gough, 2013). Resilience is essential for success in and out of school because people face challenges everywhere. For the purpose of Yeager & Dweck's 2012 research, resilience is defined as "behavioral, attributional, or emotional response to an academic or social challenge that is positive and beneficial for development such as seeking new strategies, putting forth effort, or solving conflicts peacefully". For comparison, a negative response would be helplessness, giving up, or cheating (pg. 303). Konnikova's 2016 research shows that resilience is a set of teachable skills:

> Frame adversity as a challenge, and you become more flexible and able to deal

> with it, move on, learn from it, grow. Focus on it, frame it as a threat, and a potentially traumatic event becomes an enduring problem; you become inflexible and more likely to be negatively affected. (Konnikova, 2016)

Educational researcher Angela Duckworth, who has worked closely with Carol Dweck, has conducted numerous studies on grit, achievement, and qualities that enable people to stick to their goals. In a 2013 interview with Deborah Perkins-Gough, senior editor at *Educational Leadership*, Duckworth discussed a scale she developed to measure grit. On the scale, half of the questions regard responding to failure and adversity or being a hard worker. The other half of the questions regards having consistent interests over a long period of time. Duckworth stated that "grit is not just having resilience in the face of failure, it is having deep commitments that you remain loyal to over many years"(p. 16). One study was at West Point Military Academy, where 1 in 20 cadets drop out after their first summer of training. Duckworth had the cadets take a short grit questionnaire using her grit scale in the beginning of their training. Of all variables measured, which includes West Point's psychological tests and their Whole Candidate Score (SAT scores, class rank, demonstrated leadership, and physical aptitude), Duckworth showed that grit was the best predictor of which cadets would return after the first summer. (Perkins-Gough, 2013).

Classroom & Grading Practices That Reward Effort

According to education consultant, veteran teacher, and author Rick Wormeli, motivation comes from within, which makes it challenging for educators to truly *motivate* students. Teachers can manipulate or control student behavior through rewards, for example, but it is challenging to motivate a student to do something they do not want to. Therefore,

motivation should be something we aim to create *with* the students. This may start with cultivating a classroom culture that encourages students to embrace curiosity and personal investment without fear of embarrassment (Wormeli, 2014).

Wormeli's 2014 article, *Motivating Young Adolescents*, suggests that teens are developmentally ready for learning intellectually advanced material and for "getting excited about their growing expertise and the freedoms that come with competence" (p. 28). If a student appears to be lazy or unmotivated, in order to best support students, educators may consider underlying reasons such as the student may lack the skills required to complete the task, be dealing with excess home responsibilities, or fearing failure (p. 28).

Dweck(2010) posited that educators may experience the frustration of mixed student response to more challenging meaningful learning tasks. Depending upon an individual student's mindset, they may tackle the more challenging work with enthusiasm or feel threatened by the risk. Therefore, teachers must make efforts to create a growth mindset culture in the classroom, one in which persistence and effort is praised (Dweck 2010).

Dweck's 2010 article, *Even Geniuses*, suggests ideas for classroom and grading practices that reward effort and aims to help students develop a growth mindset:

- Encourage students to focus on the learning process so students are less focused on grades.
- Utilize cooperative groups so students may feel a sense of responsibility to the group to try their best.
- Incorporate stories about famous people who were not fast learners or for whom learning did not come easily (i.e. Albert Einstein).

- Have students write mini-goals to encourage progress because small wins over time can build confidence. Consider having students write a personal goal in an area they would like to improve on. For example, a student who fears criticism might write a goal to seek peer feedback on writing assignments.
- Have students write a letter to an imaginary struggling student explaining growth mindset and improvement strategies.
- Emphasize challenge over success.
- Have in-class assignments ready to challenge students who easily master class material. Ultimately, high performing students may self-select the more challenging work and possible create their own.
- Consider grading for growth. If a student doesn't master a skill, consider marking a "Not Yet" in place of an "F".

Meaningful Feedback and Praise

The feedback students receive may influence academic achievement. Shunk noted,

> Effort has received special attention; students who believe that they fail largely because of low ability may not expend much effort to succeed. Because effort is under one's control, teaching students to believe that prior difficulties resulted from low effort may lead them to work harder with the expectation that it will produce better outcomes (Shuck, pg. 393).

Yeager's & Dweck's 2012 research addresses praise, specifically providing praise or comfort that may unintentionally create mindsets that undermine resilience. Praising students for being smart caused students to identify with a fixed mindset and show less resilience when faced

with an academic obstacle. In a study where students received praise such as "that's a high score, you must be smart", students tended to want to do only easy problems, avoid challenging ones, solved 30% fewer problems on a follow-up trial, and were more likely to misrepresent their score. By contrast, students who received process or effort praise, such as "that's a high score, you must have worked hard", improved their score on the final trial and asked to do more challenging problems (Yeager & Dweck, 2012).

Praising *ability* may limit student achievement because they become afraid of ruining their image if they have to struggle. Praising *process* (engagement, perseverance, improvement strategies) may foster motivation. Praising effort, hard work, strategy, choices made, concentration, or persistence promotes resilience and growth mindset and students are more engaged and more likely to persist (Dweck 2009, 2010).

According to Dweck's earlier research in 2007, praising for process or for effort tells a student precisely what they did that led to success and fosters motivation. Dweck suggests strategies for students who easily achieve high scores: Be sure not to praise the quickness and ease, but rather try "that was too easy for you; let's find something challenging that you will learn something from" (p. 37). When working with a student who isn't succeeding despite putting forth effort, try praise that sounds like "I like the effort you are putting in, let's keep working to discover what questions you still have". Dweck's 2006 book, *Mindset: The New Psychology of Success,* prompts teachers to consider what messages they send to students through praise: *"Your traits are permanent and I am going to judge them"* or *"You are developing and I am interested in your growth"* (see Fig. 1) (Dweck, 2006).

Figure 1.

Messages Sent Through Praise, Examples from Dweck, 2006, p. 174

	Comment from teacher	How student may internalize comment
Fixed mindset	You learned that so quickly, you're really smart.	If I don't learn quickly, I am not smart.
	You're brilliant, you learned that without even studying.	I should be able to learn without studying.
Growth mindset	You tried all sorts of strategies until you finally got it!	It's okay to make mistakes and struggle.
	That homework was long… I admire how you concentrated and finished.	I can complete challenging tasks if I concentrate and keep working.
	That was too easy for you, let's find something more challenging that you can learn from.	Engaging in learning is worthwhile.

Challenges and Perseverance

Within the context of people's potential to improve ability in mathematics, Yeager and Dweck's 2012 article details an intervention carried out by Paunesku, Yeager, Romero and Walton (2012). They created a reading and writing exercise that taught incremental theory of intelligence to more than 200 community college students in developmental mathematics courses, some of who reported that their math skills had decreased since childhood. Students were asked to read an article on incremental theory, which discussed the malleability of adults' brains and one's potential to improve math ability. The article stated "When people learn and practice new ways of doing algebra or statistics, it can grow their brains - even if they haven't done well in the past". Because some of the college student participants reported feeling dumb when attempting math problems that they did not know how to solve, thus avoiding doing challenging problems altogether" (p. 305), the intervention aimed to counteract this low level of

resiliency with a second article that stated. This one stated "It's not just about effort. You also need to learn skills that let you use your brain in a smarter way… You actually have to practice the right way… to get better at something. In fact, scientists have found that the brain grows more when you learn something new, and less when you practice things you already know" (p. 305). Participants were randomly selected to read the articles and write letters to future students to explain key messages in the articles. The teachers of the mathematics courses were unaware of the experimental condition. The results of this study revealed that 20% of the students in the control group withdrew from their mathematics course, as compared to 9% from the incremental theory treatment group. The researchers concluded that their intervention changed the way participants viewed challenges. Instead of feeling dumb, the challenge helped them become smart, and this belief promoted resilience (pg. 306). Increasing curricular and instructional rigor must include teaching resiliency skills in order to see positive student outcomes. If educators teach that intelligence can be developed with effort, strategies, and help from others, then students will be more resilient when faced with a tougher curriculum (p. 306).

In *Teaching Life Success To Students With LD,* Raskind, Goldberg, Higgins, and Herman (2002), authors seek to provide strategies to teachers to help promote positive life outcomes for students with LD. They summarize factors that led some students with learning disabilities (LD) to success. Success was indicated by descriptors such as having a good job, going to college, being happy, and having positive relationships with family and friends. The article is built on a study conducted by Raskind et al 1999 that was part of a longitudinal project that traced the lives of a group of individuals with learning disabilities who attended the Frostig Center 20 years prior. Data were gathered through case records, public records, current testing, and in-depth interviews and was "designed to identify various factors in the lives of our students that led some

to ‘success’ and others to ‘failure’”. Results from the study indicated that perseverance (as well as self-awareness, proactivity, goal setting, support systems, and emotional stability) was among a set of personal characteristics, attitudes, and behaviors that predicted success, and that these characteristics were more effective at predicting success among the participants than factors such as IQ, academic achievement, stressors, age, gender, socioeconomic status, or ethnicity. Perseverance attributes in this study included behaviors such as pursuing goals despite adversity, believing that difficult situations are learning opportunities, and a belief that struggle builds character (Raskind et al., 2002)

Synthesis of Research Findings

This Literature Review examined research into themes of helping students develop growth mindset and resilience and fostering a climate of effort and perseverance in order to promote academic achievement. The research indicates that there are classroom practices that teachers can implement to help students tackle more challenging work without feeling threatened by failure. According to Brackett, Reyes, Rivers, Elbertson, and Salovey (2012) teacher attitudes toward the effectiveness of incorporating social and emotional skill development into their practice can affect the buy-in, implementation, and impact of such initiatives (p. 220). Because teachers are delivering the instruction in the classroom, their beliefs and attitudes will shape the learning environment and impact student outcomes. Therefore, it is critical to understand teacher comfort and commitment to initiatives as well as their perceptions on how school culture supports such practices. Understanding teacher attitudes and beliefs can help administrators make decisions on the timing, type, and amount of teacher training if the school is committed to efforts to teach these skills (p. 232).

Chapter 3: Methods

Description of Characteristics of Inquiry

This research was conducted as part of a Certificate in Advanced Studies in Educational Leadership at Sacred Heart University (SHU). I am a k-12 certified health and physical teacher in the State of Connecticut, with a master's degree in special education. I have eleven years of experience at the high school level and currently serve on the school's Safe School Climate Committee, the Health and Physical Education Curriculum Review Committee, and co-chair the School Culture and Leadership NEASC Self-Study Committee. As a teacher, I am interested in learning best practices to help students develop the skills necessary to be successful in academics and beyond. In Schunk's *Learning Theories: An Educational Perspective* (2012), he discusses the theory of *locus of control* in so much that students who generally believe they have little control over academic successes and failures also believe they can exert much control in a particular class because the teacher and peers are helpful and because they like the content. He notes that "locus of control is important in achievement contexts because expectancy beliefs are hypothesized to affect behavior" (pg. 367). According to Lefcourt and Phares (1976), students who believe they have control over success and failure will be more likely to engage in academic tasks and put forth effort than students who believe their behavior has little impact on outcomes (pg. 367). I am interested in classroom practices that may help students develop growth mindset and resilience, and that may foster a climate of effort and perseverance in order to promote academic achievement. Specifically, I am seeking to learn more about best instructional and assessment practices that encourage effort and perseverance. As a teacher and future school leader, I am aware of expectations established in *The Common Core of Leading: CT School Leadership Standards*. My interests in best classroom practices is directly related to

Performance Expectation 2, which states that education leaders ensure the success and achievement of all students by monitoring and continuously improving teaching and learning (Connecticut State Department of Education, 2012).

My philosophical assumption with implication for practice is methodological, which studies a topic within its context (Creswell, 2008, p. 21). My interpretive framework is pragmatic in that through my research I am trying to improve teaching and learning (Creswell, 2008, p. 28). Pragmatism focuses on the outcome of research, and seeks a solution to a problem. Ideally, the outcome of my research will produce a clear picture of teacher attitudes and classroom practices at Nutmeg Public Schools in regards to teaching resilience as well as fostering a mindset where failure is perceived by students as an opportunity for growth and in which effort equals success. Because teachers are delivering the instruction in the classroom, their beliefs and attitudes will shape the learning environment and impact student outcomes. Understanding teacher attitudes, beliefs, and current practice will provide curriculum directors useful information as best practices for instruction and assessment are reviewed.

Purpose

I believe this topic was worthy of research because when faced with struggle, students tend to give up, blame the teacher, *or* power through because they are extrinsically or intrinsically motivated to do so. Research indicates that there are classroom practices that teachers can implement to help students tackle more challenging work without feeling threatened by failure. The literature review specifically examined research on resiliency and growth mindset. According to David Yeager and Carol Dweck's research (2012), all students will face adversity at some point, whether it is academic and/or social and emotional and a student's reaction to adversity, or their level of resiliency, may in part explain their level of academic

success. Dweck posited in 2010 that teachers must make efforts to create a growth mindset culture in the classroom, one in which persistence and effort is praised.

The purpose of this study was to explore teacher attitudes toward classroom practices that encourage students to put forth effort and view struggle as opportunities for growth. The following research questions guided this study:

1. Do teachers at Nutmeg High and Middle School believe that teaching persistence and resiliency skills in the classroom improves academic success?
2. Do teachers at Nutmeg High and Middle School believe that creating a classroom culture in which making mistakes (or struggling) is valued as an opportunity for growth reduces incidents of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging?
3. Are teachers at Nutmeg High and Middle School currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes?
4. Do teachers at Nutmeg High and Middle School believe that it is "best practice" to incorporate effort and persistence into a student's grade or to allow the grade to represent the student's knowledge of the content?

Research Design

Creswell describes action research as a design that addresses "a specific practical issue and seeks to obtain solutions to a problem" (Creswell, pg. 579). This study examined teacher attitudes toward classroom practices aimed at promoting increased student effort using an action research design. The methodology used was mixed methods design, which is collecting and analyzing both quantitative and qualitative data brought together for interpretation. The "basic assumption is that the use of both quantitative and qualitative data methods, in combination,

provides a better understanding of the research problem and questions than either method by itself" (Creswell 537).

An action research mixed methods design allowed me to collect and analyze data that provided feedback, specifically applicable in my district, to directors in three different departments currently reviewing instructional and assessment practices, regarding a) current teacher attitudes and beliefs toward practices that teach persistence, resilience, and encourage risk-taking and b) current implementation of instructional and/or assessment practices that encourage students and incorporate challenge as opportunities for students to learn from mistakes.

The Case

The town in which the context of the research took place is located in New England, and has a population of 34,685 (as of 2014-15). The school district serves approximately 6,000 students. There are nine schools in total, with one Middle School serving Grade 7-8 and one high school serving Grade 9-12. In the 2015-16 school year, there were 1,036 students enrolled at the middle school and 2,037 students enrolled at the high school. Based on enrollment district-wide in 2015-16, the schools had enrollment of 50.8% female and 49.2% male, coming from a variety of ethnic backgrounds. These include White (74.2%), Asian, (9.7%), Hispanic or Latino (8.6%), Black or African American (3.0%), as well as Two or More Races (4.2%). There are 9.5 % of students eligible for Free or Reduced Lunch. Students with disabilities made up 10.6 % of the population, and 1.3% of students are English Language Learners.

Initially, I obtained permission from the Assistant Superintendent to survey teachers. The Assistant Superintendent recommended I meet with curriculum directors in the process of

moving toward assessing performance levels and therefore particularly interested in learning about teacher perception on increased rigor, assessment, and grading practices.

The target population of my study is Grade 7-12 teachers, and my sample that I studied consisted of the Grade 7-12 teachers in the English Language Arts, Foreign Language, and Math Departments. I selected three departments across middle and high school levels to help reduce sampling error and collect data that is representative of the target population; thereby surveying teachers in three of nine of the school's curriculum departments. Specific teacher totals are thirty-three English teachers for Grade 7-12, thirty-two Foreign Language teachers for Grade 7-12, and thirty Math teachers for Grade 7-12.

Data Collection Methods

Quantitative and qualitative data collection methods were used to collect data for this mixed methods action research design in order to answer the research questions. The research questions and data collection methods used for this study are identified in Table 1.

Table 1

Research Questions and Methods

Research Question	Methods
1. Do teachers at Nutmeg High and Middle Schools believe that teaching persistence and resiliency skills in the classroom improves academic success? (**Resiliency, in terms of one's reaction to struggle and one's ability to persevere through difficult work.)*	• Close-ended Survey Questions • Open-ended Survey Questions
2. Do teachers at Nutmeg High and Middle Schools believe that a classroom culture in which making mistakes is valued as an opportunity	

for student growth reduces incidents of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging? 3. Are Nutmeg High and Middle School teachers currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes? 4. Do Nutmeg High and Middle School teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade or to allow the grade to represent the student's knowledge of the content?	• Interviews

As noted in the table above, the research questions were answered through the use of both qualitative and quantitative data. The next section describes the method of collecting these two types of data.

In order to gather and evaluate quantitative data on variables regarding teacher attitudes and classroom practice, I used a cross-sectional survey design, which is ideal for a study at one point in time and allowed me to "examine such variables as current attitudes, beliefs, opinions, or practices" (Creswell 2015, pg 380). A cross-sectional design matched the purpose of my study, which was to provide feedback to department directors on current teacher attitudes and beliefs toward practices that teach persistence, resilience, encourage risk-taking, and practices that account for student effort in grading.

To assist me in designing a survey that would help me fill a gap in the literature (teacher attitude and classroom practice), the mathematics department director provided me with an existing survey that was based on Carol Dweck's research and designed to measure growth mindset in regards to learning mathematics. In order to adapt the survey, I worked in collaboration with the department directors and my research mentor to craft statements and

questions that would answer the research questions in this study. Specifically, I interviewed the three department directors to learn what they specifically would be interested in learning from a survey, then adapted the existing survey to match my own questionnaire statements. I also worked with a research teacher at the high school to be sure my survey questions would result in a reliable survey tool, did not contain jargon or bias, and would warrant the responses to the research questions.

The survey contained ten close-ended statements on which participants were asked to agree or disagree using a 4-point Likert Scale that asked teachers to respond to statements with (1) Strongly Disagree, (2) Disagree, (3) Agree, or (4) Strongly Disagree.

Additionally, two open-ended questions on the above-described teacher survey provided qualitative data by allowing participants to elaborate on their opinion in their own words. Creswell (2015) stated that in qualitative research, open-ended questions are asked "so that participants can best voice their experiences unconstrained by any perspectives of the researcher or past findings" (p. 216).

Department directors agreed to provide time at a department meeting for teachers to complete the survey in order to support a high rate of response and help reduce nonresponse error. I was also present in case there were questions. The survey was available on Google Forms, a tool which allowed me to email the survey to each individual teacher, collect the data in an anonymous fashion, and analyze the data by variables. On the morning of each of the department meetings, I emailed a copy of the survey to each participant along with a note reminding them that time would be provided and that I would be available in-person for questions.

Data Analysis Methods

The quantitative and qualitative data collected for this project was analyzed in order to understand teacher attitudes toward classroom practices aimed at promoting increased student effort. Descriptive statistics were used to analyze the quantitative data gathered from the close-ended questions. The coding process was used to analyze and evaluate the qualitative data gathered from the open-ended questions. As a result of both of these analysis methods, observations for discussion were made regarding teachers' beliefs toward teaching and assessing student effort.

Quantitative Analysis Methods

The quantitative data resulting from the survey responses Google Forms was transferred from Google Forms into a Microsoft Excel spreadsheet. The data was then uploaded into the *Statistical Package for the Social Sciences (SPSS)* software program to be correlated. Using SPSS, the data was organized by grade level and department and descriptive statistics were used to analyze the trends in the data. Descriptive statistics revealed tendencies in the data, such as mean, and the spread of scores, such a standard deviation (Creswell, 2015).

Qualitative Analysis Methods

Open-ended survey responses resulted in qualitative data that was coded in order to identify themes across departments and grade levels. The responses to the opened-ended survey item number eleven were copied and pasted into a Microsoft Word document, and then sorted by utilizing the "word find" tool. Common words allowed for the survey responses to be clustered together based on common themes and then examined across participants based on grade level and department.

Qualitative data from open-ended survey item number twelve was organized and coded through NVivo Software. Creswell (2015) stated that this software program allows for "efficient

management of non-numerical, unstructured data" and is used for "rapid coding, thorough exploration, and rigorous management and analysis" (p. 242). Responses to open-ended survey item number twelve were copied and pasted into a Microsoft Word document, and then uploaded into NVivo which coded the responses for common themes. Additional qualitative data that was gathered during an interview with the curriculum directors was recorded, transcribed, and analyzed using NVivo.

Reliability and Validity

Reliability and validity of the data collected was determined through several methodological approaches. To ensure reliability and validity, I used pilot testing and peer debriefing.

Pilot Testing

After survey questions are developed, a researcher may pilot test the questions in order to determine that participants will be able to complete the survey and understand the questions (Creswell, 2015). Pilot testing a survey is a process in which the researcher gathers feedback from a small number of people who complete and evaluate the survey, and then modifies the survey based on that feedback (Creswell 2015). A benefit to pilot testing, according to Schade (2015), is that it can help make sure that the survey questions are not misleading or confusing (Schade, 2015). According to Schade (2015), pilot testing is a dress rehearsal for the study and it is a good idea to conduct a dry run to ensure all materials and processes are prepared for the study. Due to modifications made based on their feedback, the people in the pilot group would not be included in the sample population (Creswell 2015).

Once my survey was created, I asked two colleagues to complete and evaluate it. These two colleagues were teachers from the same school district and grade level as the participants,

but from departments that did not be take part in the study. Both of these colleagues provided useful feedback that enabled me to edit the survey for clarification. The first colleague had a strong negative reaction to the questions and became quite frustrated. She told me that she did not know the answers and that she did not like the 4-point Likert Scale format since it did not provide a "Don't Know" or "Neutral" selection. Based on her feedback, I added the following statements to the directions: "Your response is a snapshot of your beliefs at this time. There is no right or wrong answer." The second colleague to pilot test the survey completed the survey and then allowed me time to review her scored results with her. Based on my scoring system, I shared my understanding of the results from her survey, and she heartily agreed with my interpretation.

Peer Debrief

Peer debriefing is a process of sharing the survey instrument and analysis methods with a disinterested peer in order to explore "aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind (Lincoln & Guba, 1985, p. 308)" (Cohen, 2006). The purpose and benefits of peer debriefing include "uncovering taken for granted biases, perspectives and assumptions on the researcher's part", and an opportunity to determine if the research purpose and findings seem reasonable and plausible" (Cohen, 2006).

I shared my survey instrument with two small sets of peers who are not involved in this study. The first set comprised two colleagues, one who teaches an Advanced Research Methods course at the high school, and the assistant principal. Both are considered experts in the field of educational research, and they reviewed and evaluated my research purpose, research questions, and the survey questions for alignment and bias. The second set of peers was a "critical friends" group in my EDL 690 course. With this group, I shared the research

questions, survey tool, scoring instrument and data analysis methods to help ensure that my plan to interpret findings seemed reasonable.

Chapter Four: Results and Discussion

Introduction

I am a k-12 certified health and physical teacher in the State of Connecticut. I have a Master's Degree in Special Education from the University of Connecticut and am currently pursuing an advanced degree in Educational Leadership at Sacred Heart University in Fairfield, Connecticut. I have been teaching at a high school in Connecticut for eleven years. Additionally, I serve on the Safe School Climate Committee, the Health and Physical Education Curriculum Review Committee, and co-chair the School Culture and Leadership NEASC Self-Study Committee. These experiences have informed my thinking about the importance of teaching resilience.

For this study, I collected quantitative and qualitative data through surveys and interviews with teachers in grades 7-12 teachers and administrators within the English Language Arts (ELA), Foreign Language (FL), and Mathematics Departments at Nutmeg High and Middle Schools. Nutmeg Public Schools are located in a town in New England with a population of approximately 35, 000. The purpose of this study was to explore teacher attitudes toward classroom practices that encourage students to put forth effort and view struggle as opportunities for growth. The following research questions guided this study:

1. Do teachers at Nutmeg High and Middle Schools believe that teaching persistence and resiliency skills in the classroom improves academic success?
2. Do teachers at Nutmeg High and Middle Schools believe that a classroom culture in which making mistakes is valued as an opportunity for student growth reduces incidents of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging?

3. Are Nutmeg High and Middle Schools teachers currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes?
4. Do Nutmeg High and Middle Schools teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade or to allow the grade to represent the student's knowledge of the content?

My interests in this study focus on exploring best practices to help students develop the skills necessary for college and career readiness. Research indicates that one of key non-cognitive skills that students need is overcoming challenges and persevering through problem-solving. The goal of this research is to investigate high and middle school teacher attitudes toward instructional and assessment practices that promote effort and persistence. In Chapter Four, I present and explore teacher attitudes and beliefs toward classroom practices that promote non-cognitive skills development related to perseverance and overcoming challenges.

Description of the Sample

In order to determine secondary teacher attitudes and beliefs, the target population for this study was this district's high and middle school teachers. An online survey was used to gather information from eighty-three high school and middle school teachers across three departments - English Language Arts, Foreign Language, and Math. Additionally, the three curriculum directors from those departments were interviewed in order to validate the survey information and to gather more qualitative responses regarding teacher attitudes. Table 1 reports the number of teachers who participated in this study by grade level and department.

Table 1

Teachers by Grade Level and Department

Grade	Department	N
7-8	English Language Arts	10
7-8	Foreign Language	9
7-8	Math	8
9-12	English Language Arts	22
9-12	Foreign Language	12
9-12	Math	22

Research Methodology and Data Analysis

This research was conducted using a mixed method, action research approach. Quantitative data was gathered from close-ended statements in an online survey, and qualitative data was gathered from open-ended questions on the same survey. Quantitative data was also collected through in-person interviews with department chairpersons. For the purpose of this research, the survey information was gathered from secondary teachers at the Nutmeg Public Schools in Connecticut, and the interview information from curriculum directors in the same district.

Quantitative data was gathered through the use of ten closed-ended Likert-Scale statements in an online survey. Participants were asked to respond Strongly Agree (4), Agree (3), Disagree (2), or Strongly Disagree (1). Figure 1 provides an overview and definition of the concepts that frame the close-ended statements on the survey.

Figure 1

Close Ended Statements in the Online Survey

Item Number	Abbreviation	Close Ended Statements
1	Persistence	Persistence and effort are teachable skills.
2	Teaching Persistence	Teaching persistence in the classroom improves academic success.
3	Resiliency	Resiliency is a teachable skill. (Resiliency, in terms of one's reaction to struggle and one's ability to persevere through difficult work.)
4	Teaching Resiliency	Teaching resiliency skills in the classroom improves student academic success.
5	In A Classroom	In a classroom culture in which making mistakes is valued as an opportunity for student growth, students are less likely to react negatively to challenge (i.e. avoid work, drop course, shut down emotionally).
6	A Student's Grades	A student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance.
7	My Instructional	My instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.
8	My Assessment Encourages	My assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.
9	My Assessment Reflects	My assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance.
10	My Assessment Results	My assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks.

The resulting quantitative data from the ten online survey statements above was analyzed using SPSS. The data was organized by grade level (high school, middle school) and by department (ELA, FL, Math).

In addition to the quantitative data, I collected qualitative data through two open-ended questions that were included in the same online survey. The two open-ended questions in the online survey were *"Identify specific obstacles you encounter, or predict encountering, if any, in rewarding (or including) student effort and level of perseverance in your grading system"* (Survey Item Number 11); and *"Please write additional comments here"* (Survey Item Number 12). The qualitative data gathered from open-ended Survey Item 11 was analyzed by utilizing the "word find" tool in Microsoft Word. This feature was used to examine participants' responses by identifying common words. The common words were then grouped into "cluster statements" that generated common themes. Qualitative data gathered from teacher responses to open-ended Survey Item 12 was analyzed by utilizing NVivo Software which similarly coded the responses for common themes.

Additional qualitative data was gathered during an interview with the curriculum directors of the ELA, FL, and Math departments. The directors reviewed the survey results from the ten close-ended questions and the two open-ended questions and validated the information. All three directors each confirmed that the survey results (number of respondents and responses) were reasonable and as expected. The interview was recorded, transcribed, and analyzed using NVivo.

The data obtained from the methods described above is presented in the following pages of Chapter Four, and arranged by each of this study's four research questions:

1. Do teachers at Nutmeg High and Middle Schools believe that teaching persistence and resiliency skills in the classroom improves academic success?
2. Do teachers at Nutmeg High and Middle Schools believe that a classroom culture in which making mistakes is valued as an opportunity for student growth reduces incidents

of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging?

3. Are Nutmeg High and Middle Schools teachers currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes?
4. Do Nutmeg High and Middle Schools teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade OR to allow the grade to represent the student's knowledge of the content?

Presentation of the Data and Results of the Analysis

Research Question 1: Do teachers at Nutmeg High and Middle Schools believe that teaching persistence and resiliency skills in the classroom improves academic success?

Quantitative Results

Table 2 presents the mean response by grade level for survey items one, two, three, and four.

Table 2

Response by Grade Levels

Survey Item Number	Statement	Mean Response Among the High School Teachers	Mean Response Among the Middle School Teachers
1	Persistence and effort are teachable skills.	3.13	3.15
2	Teaching persistence in the classroom improves academic success.	3.25	3.41
3	Resiliency is a teachable skill. (Resiliency, in terms of one's reaction to struggle and one's ability to persevere through difficult work.)	3.07	3.11

4	Teaching resiliency skills in the classroom improves student academic success.	3.16	3.26

There appears to be no practical difference in the mean responses between the high school and middle school teachers. All teacher response means appear to be 'agree' to all four statements.

Table 3 presents the data by grade level and department.

Table 3

Mean Response by Departments and Grade Level

Survey Item Number	Statement	ELA - HS	ELA - MS	FL -HS	FL -MS	MATH - HS	MATH - MS
1	Persistence and effort are teachable skills.	3.14	3.20	3.25	3.33	3.05	2.88
2	Teaching persistence in the classroom improves academic success.	3.19	3.50	3.33	3.44	3.27	3.25
3	Resiliency is a teachable skill. (Resiliency, in terms of one's reaction to struggle and one's ability to persevere through difficult work.)	3.00	3.10	3.17	3.22	3.09	3.00
4	Teaching resiliency skills in the classroom improves student academic success.	3.09	3.20	3.25	3.44	3.18	3.13

Across items one through four, and across the three departments and middle and high school levels, with one exception, there appears to be no practical difference in the mean responses. All teacher response means appear to be 'agree' to all four statements. The one exception is the average response among the middle school math teachers which is slightly below *agree* to the statement "Persistence and effort are teachable skills." This suggests that middle school math

teachers are less likely to view persistence as teachable when compared with the perceptions of their colleagues in other department and at other grade levels.

Qualitative Results

The qualitative data gathered from open-ended survey item 11 was analyzed by utilizing the "word find" tool in Microsoft Word. This feature was used to examine participants' responses by identifying common words. The common words were then grouped into "cluster statements" that generated common themes. Qualitative data gathered from open-ended survey item 12 was analyzed by utilizing NVivo software that similarly coded the responses by common themes.

Addressing the first research question, an analysis of the qualitative data collected from survey items #11 and #12 revealed a common response among middle school teachers across the ELA, FL, and Math departments that effort and perseverance are critical for success. However, the data collected from survey item #12 also revealed concerns over outside factors, such as home life. One middle school ELA teacher reported,

> I don't think it's possible to "teach" resiliency. I think we can model resiliency and encourage resiliency, but ultimately there are other factors involved (ex. home life) which impact this trait in a student.

With respect to the question of whether or not teachers *believe that teaching persistence and resiliency skills in the classroom improves academic success*, the quantitative and qualitative data indicate that middle school and high school teachers at Nutmeg High and Middle Schools agree that persistence and effort are teachable skills is valuable and improves student academic success, with the exception of middle school math teachers, who were slightly less likely to view

persistence as teachable. However, it was unclear from the data whether teachers believe they have the ability to instruct these skills. This interpretation stems from teacher responses from the open-ended survey items that express concerns over whether these skills are learned or affected by factors outside of the classroom setting.

Research Question 2: Do teachers at Nutmeg High and Middle Schools believe that a classroom culture in which making mistakes is valued as an opportunity for student growth reduces incidents of student negative reaction to challenge such as work avoidance, dropping the course, or disengaging?

Quantitative Results

Table 4 presents the mean response by grade level for survey item five.

Table 4

Mean Response Across Grade Levels

Survey Item Number	Statement	Mean Response Among the High School Teachers	Mean Response Among the Middle School Teachers
5	In a classroom culture in which making mistakes is valued as an opportunity for student growth, students are less likely to react negatively to challenge (i.e. avoid work, drop course, shut down emotionally).	3.57	3.67

There appears to be no practical difference in the mean responses between the high school and middle school teachers. All teacher mean responses means appear to range between ‘agree’ to ‘strongly agree’.

Table 5 presents the data by grade level and department.

Table 5

Mean Response Across Departments and Grade Levels

Survey Item Number	Statement	ELA - HS	ELA - MS	FL - HS	FL -MS	MATH - HS	MATH - MS
5	In a classroom culture in which making mistakes is valued as an opportunity for student growth, students are less likely to react negatively to challenge (i.e. avoid work, drop course, shut down emotionally).	3.50	3.80	3.83	3.67	3.50	3.50

For survey item 5, across the three departments and middle and high school levels, there appears to be no practical difference in the mean responses. All teacher response means appear to range from 'agree' to 'strongly agree'. This suggests that that teachers believe that creating a classroom culture in which making mistakes are valued as opportunities for student growth, students are less likely to react negatively to challenge (i.e. avoid work, drop course, shut down emotionally).

Qualitative Results

Addressing the second research question, an analysis of the qualitative data collected from the open-ended survey items #11 and #12 produced little qualitative data at the middle school level in regards to what teachers believe about whether creating a classroom culture in which making mistakes are valued as opportunities for student growth, reduces students' likeliness to react negatively to challenge. However, the data collected from survey item #12 at the high school level revealed concerns about school culture. One high school ELA teacher reported,

> Fighting fear of making mistakes in a culture in which perfection and performance is so central.

A high school FL teacher reported,

> I find our school culture and climate as a whole contributes to students feeling that they cannot take risks and make mistakes. It may be a community thing, too. Students are not necessarily interested in improving performance but are focused on the bottom line or grade.

With respect to the question of whether or not teachers *believe that creating a classroom culture in which making mistakes are valued as opportunities for student growth reduces students' likeliness to react negatively to challenge,* the quantitative data indicate that middle school and high school teachers at Nutmeg High and Middle Schools agree that creating such a classroom culture would reduce student avoidance to challenge. However, qualitative data collected from the high school level revealed concerns about school culture negatively potentially impacting students' ability to take academic risk within a school and community culture so focused on high achievement. It was unclear from the data whether teachers believe they possess the ability to create a classroom culture in which making mistakes are valued as opportunities for student growth. Additionally, teachers' confidence level in their ability to create such a classroom culture was unclear from the data.

Research Question 3: Are Nutmeg High and Middle Schools teachers currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes?

Quantitative Results

Table 6 presents the mean response by grade level for survey items seven, eight, and ten.

Table 6

Mean Response Across Grade Levels

Survey Item Number	Survey item	Mean Response Among the High School Teachers	Mean Response Among the Middle School Teachers
7	My instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.	3.34	3.52
8	My assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.	2.98	3.33
10	My assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks.	2.09	1.81

For item 7, there appears to be no practical difference in the mean responses between the high school and middle school teachers. All teacher response means appear to be 'agree' that *their instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem*. For item 8, high school teachers were only slightly less likely to agree than the middle teachers that *their assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem*. For item 10, there appears to be no practical difference in the mean responses between the high school and middle school teachers. All teacher response means appear to be 'agree' that *their assessment and/or grading practices do not result in student avoidance to challenging tasks.*

Table 7 presents the data by grade level and department.

Table 7

Mean Response Across Departments and Grade Levels

Survey Item Number	Statement	ELA - HS	ELA - MS	FL - HS	FL -MS	MATH - HS	MATH - MS
7	My instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.	3.27	3.40	3.17	3.67	3.50	3.50
8	My assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.	2.86	3.40	3.00	3.56	3.09	3.00
10	My assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks.	2.05	1.80	2.17	2.00	2.09	1.63

For survey item 7, across the three departments and middle and high school levels, there appears to be no practical difference in the mean responses. The teacher mean responses appear to be between 'agree' and 'strongly agree' indicating that the teachers agree that their *instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem*. Specific to the high school level, math teachers reported more likely than ELA & FL teachers to believe that their instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem. Specific to the FL teachers, middle school teachers reported to more likely than high school FL teachers to believe their instructional practices encourage

students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.

For survey item 8, across the three departments and middle and high school levels, with one exception, there appears to be no practical difference in the mean responses. All teacher response means appear to indicate that teachers tend to 'agree' and 'strongly agree that their *assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem.* The one exception is the mean response among high school ELA teachers ranged from 'agree' to 'disagree', indicating that high school ELA were slightly less likely to agree that their assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem. Specific to the ELA department, middle school teachers were more likely than high school teachers to believe the statement. Specific to the middle school level, ELA and FL teachers were more likely than math teachers to believe the statement.

For survey item 10, across the three departments and middle and high school levels, teacher response means appear to be between 'disagree' and 'strongly disagree', indicating that teachers do not believe that their *assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks*. However middle school math teachers were more likely to disagree with the statement. Specific to the middle school level, math teachers reported being less likely than ELA or FL teachers to believe their assessment and/or grading practices may result in student avoidance. Specific to the math department, middle school math teachers were less likely than high school math teachers to believe their assessment and/or grading practices may result in student avoidance.

Qualitative Results

Addressing the third research question, an analysis of the qualitative data collected from survey items #11 and #12 revealed common obstacles that *teachers reported encountering in implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes.* Common obstacles identified as affecting student effort and perseverance were parents, work load, over placement in difficult courses, and a culture that rewards achievement more than effort. One middle school math teacher reported,

> I think developing a willingness and ability to solve rigorous problems needs to not only be taught in the classroom but needs to be supported at home. Nowadays, many students are given what they want, when they want it. They aren't always willing to put in the work or be patient enough to actually gain a deep understanding of topics.

Mirroring outside pressure as an obstacle to implementing classroom practices that encourage challenge, a high school ELA teacher noted,

> In a district such as Glastonbury, I think there is a lot of pressure, and I think that developmentally, a lot of students aren't yet ready for the rigor that is expected of them. When over placed students continually fail, I find that they give up...so those obstacles listed above (parents, pressure, work load, over placement) have a huge impact on effort and persistence.

Similarly, another high school ELA teacher commented,

> I would be very interested in finding an assessment model that rewards stretching, risk taking, and even failing (therefore growing); I feel that this is an enormous cultural shift, though.

Regarding the culture, a second high school ELA teacher noted,

> Society and parents are influential factors, too. Unfortunately, we live in a world that rewards achievement more than effort. In order to encourage greater learning, our culture needs to change.

On the topic of encouraging students to learn from mistakes, one high school FL teacher reported,

> I think that persistence and effort are valuable skills and students should be encouraged to develop them. I believe that I best address them through my classroom practices, instructional design, rapport with students and not through grading. Students are comfortable in my class with making mistakes and retaking assessments whenever they don't do as well as they wanted. I think that is the most appropriate and productive way to incorporate them into learning.

However, with regards to providing students with opportunities to demonstrate effort, one high school ELA teacher reported,

> I often find that when I give opportunities to proactively show extra effort on writing, they won't take me up on it, but beg for a "second chance" after the grade comes in.

With respect to the question of whether or not teachers at Nutmeg High and Middle Schools are *currently implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes*, the quantitative data indicates that teachers tended to 'agree' that their *instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem*. Teachers also appeared to 'agree' that their *assessment and/or grading practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or struggling to solve a problem*, (with the one exception among high school ELA teachers whose mean responses were between 'agree' to 'disagree'). Additionally, teachers appeared to 'disagree' that their *assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks*. This quantitative data overall suggests that teachers' instructional and assessment (and/or grading) practices encourage students to try difficult tasks, and feel comfortable making mistakes and struggling to solve problems. This quantitative data also suggests that teachers do not believe their assessment and/or grading practices may result in student avoidance. However, qualitative revealed common obstacles that teachers reported *encountering in implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes.* Common obstacles that were identified as affecting student effort and perseverance were parents, work load, over-placement in difficult courses, and a culture that rewards achievement more than effort. Moreover, it was unclear from the data whether teachers believe they have the ability to overcome these obstacles. This interpretation stems from teacher responses from the open-ended survey items that express concerns over these obstacles. It was also unclear from the data how often or how in-depth teachers are *implementing classroom practices that encourage risk-taking, challenge, and learning from mistakes.* Additionally, it

was unclear from the data that students *feeling comfortable making mistakes* transfers to students *learning from mistakes*.

Research Question 4: Do Nutmeg High and Middle Schools teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade or to allow the grade to represent the student's knowledge of the content?

Quantitative Results

Table 8 presents the mean response by grade level for survey items six and nine.

Table 8

Mean Response Across Grade Levels

Survey Item Number	Statement	Mean Response Among the High School Teachers	Mean Response Among the Middle School Teachers
6	A student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance.	2.75	2.59
9	My assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance.	2.66	2.85

For item 6, teacher mean responses among the high school and middle school level fell between 'agree' and 'disagree' that *a student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance,* with only a slight lean toward 'agree' at the high school level. For item 9, the mean response among the high school and middle school level also ranged between 'agree' and 'disagree' that their *assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance*, with only a slight lean toward 'agree' at the middle school level.

Table 9 presents the data by grade level and department.

Table 9

Mean Response Across Departments and Grade Levels

Survey Item Number	Statement	ELA - HS	ELA - MS	FL -HS	FL -MS	MATH - HS	MATH - MS
6	A student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance.	1.95	2.50	2.75	2.11	3.555	3.25
9	My assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance.	3.05	2.80	2.83	3.44	2.18	2.25

Quantitative data indicates a wide range of mean responses between *disagree* and *agree* in response to *a student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance.* Across grade levels, math teachers reported to be more likely to believe a student's grades should reflect content knowledge and skill level, not student effort. The data also suggests that at the high school level, FL teachers were more likely than ELA teachers to believe grades should reflect content knowledge and skill level, not effort; whereas middle school ELA teachers were more likely than middle school FL teachers to believe grades should reflect content knowledge and skill, not effort. Quantitative data also indicates a range of mean responses between *disagree* and *agree* in response to *my assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance*. ELA and FL teachers were more likely than math teachers to report that their assessment and/or grading practices are inclusive of student effort. At the middle school level,

FL teachers were more likely than ELA teachers; and within the FL department, middle teachers were more likely than high school teachers. Across grade levels, math teachers indicated valuing grades that reflect content knowledge and skill, not effort; and not using grading practices that reflect effort.

Qualitative Results

Addressing the fourth research question, *on whether Nutmeg High and Middle Schools teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade OR to allow the grade to represent the student's knowledge of the content,* an analysis of the qualitative data collected from survey items #11 and #12 revealed teacher attitudes toward incorporating effort into a grade as well as concerns over obstacles such as subjectivity, grade inflation, and time. Regarding perseverance, one high school math teacher reported,

> Perseverance is a valuable skill, especially in math. We should want to build those skills as much as the content skills, so they should be rewarded and incorporated as a component of the overall learning achieved in a course.

Conversely, at the high school level, ELA and math teachers noted that an obstacle to incorporating effort or level of perseverance into a grade was that students worry about getting a good grade, but do not care about the learning process or aren't comfortable working beyond their comfort zone.

Subjectivity was commonly identified an obstacle to incorporating perseverance or effort level into a student's grade as it differ for individuals and is hard to measure. Teachers expressed concerns over how to measure student effort. One high school teacher noted that there is a difference between compliance and effort and another noted that students may pretend to try. At the middle school level, and within all three departments, teachers noted that effort is crucial

for success but that it differs for individuals and is difficult to measure. Removing the teacher assessment aspect, one high school ELA teacher noted,

> Students are always encouraged to revise for better understanding. Those who make the effort can improve the grade.

Grade inflation was another commonly identified obstacle at the high school level and by math teachers. Teachers expressed that incorporating effort into a grade may inflate or deflate a student's grade and result in misrepresentation of skill or knowledge. One high school math teacher responded,

> Grading effort inflates grades for students who routinely complete homework but still have no grasp of the concept knowledge. Conversely, students who can get A's without doing homework are penalized in their grade for not doing the work. Grades are generally regarded as a picture of student's knowledge and that is distorted if effort is included.

In regards to separate grades for content and effort, a high school math teacher responded,

> If it is determined that effort should be reported, it should be separate from a grade that measures what a student knows and is able to do.

And a second high school math teacher noted,

> I would prefer 2 grades: one for being able to demonstrate knowledge of content and another for effort.

Time was also a commonly identified obstacle at the high school level and within the ELA and Math departments at the high and middle school level. A common expression was that

time is limited and assessing for effort adds to the teacher workload. One high school ELA teacher expressed,

> Finding TIME to assess during a lesson, or even finding TIME to consider student performance in these areas outside of the classroom. (It is already difficult/draining to grade the traditional essays, projects, quizzes, homework assignments, etc.)

With respect to the question of whether or not *Nutmeg High and Middle Schools teachers believe that it is "best practice" to incorporate effort and persistence into a student's grade OR to allow the grade to represent the student's knowledge of the content,* the quantitative data indicates a wide range of mean responses between *disagree* and *agree* in response to *a student's grades should reflect their content knowledge and skill level, and not be inclusive of student effort and level of perseverance.* Data also revealed a range of mean responses between *disagree* and *agree* in response to *my assessment and/or grading practices reflect (or are inclusive of) student effort and level of perseverance*. Only the math department, across grade levels, demonstrated valuing grades that reflect content knowledge and skill, and not using grading practices that reflect effort. Qualitative data revealed a variety of concerns over obstacles to incorporating effort into a student's grade, such as subjectivity, grade inflation, and lack of time. However, it is unclear from the data if teachers who believe that grades should be reflective of student effort are utilizing assessment and/or grading practices that are inclusive of student effort. Additionally, it is unclear from the data whether teachers believe they have the ability or interest in addressing concerns over subjectivity, grade inflation, and lack of time in order to reward student effort. This interpretation stems from teacher responses from the open-ended

survey items that express concerns over subjectivity, grade inflation, and lack of time serving as barriers to assess and reward student effort and level of perseverance.

Summary

The quantitative and qualitative data presented in Chapter Four suggest that middle and high school teachers across the ELA, FL, and Math departments at Nutmeg High and Middle Schools agree that persistence, effort, and resiliency are teachable skills, and that students who possess these skills are more likely to meet with academic success. However, the data collected also revealed concerns over factors such influences at home and within a competitive school and community culture which can impact this trait in a student. This suggests that while teachers perceive these non-cognitive skills as critical, they may not know how to assess these skills in students, and design activities and instruction that promotes the development of these skills.

The data suggests that teachers across the levels and departments agree that in a classroom culture in which making mistakes is valued as an opportunity for student growth, students are less likely to react negatively to challenge. However, data collected at the high school level revealed concerns about culture, for example, working against students' fear of making mistakes within in a school and community culture in which perfection and performance is so central, one in which students are not necessarily interested in improving performance but are focused on the bottom line or grade. This suggests that while teachers value creating a classroom culture in which making mistakes is valued as an opportunity for student growth, they may not know how to create such a classroom climate that successfully emphasizes the learning process over perfection and high achievement.

Data indicates that at both levels, teachers agree that their instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and/or

struggling to solve a problem; and that teachers did not believe that their assessment and/or grading practices may result in student avoidance to (or not willing to work through) challenging tasks. However, qualitative data revealed obstacles that teachers encounter when assessing student effort and level of perseverance, such as students not willing to put in the work or be patient enough to actually gain a deep understanding of topics, or students not being developmentally ready for the rigor that is expected of them. This suggests that while teachers tended to agree that their instructional, assessment, and /or grading practices encouraged challenge, teachers are facing obstacles in reaching struggling students.

The one area where data indicates a wide difference in opinion, ranging from *agree* to *disagree*, is over whether or not a student's grades should reflect their content knowledge and skill level, and not student effort, with only a slight lean toward *agree* at the high school level and among math teachers at both levels. (However, high school FL teachers were significantly more likely to believe this than high school ELA teachers; whereas middle school ELA teachers were more likely to believe this than middle school FL teachers.) Data also indicates a wide range of teacher responses falling between *agree* and *disagree* in regards to whether or not their assessment and/or grading practices reflect (or are inclusive of) student effort, with only a slight lean toward *agree* at the middle school level. ELA and FL teachers reported more likely than math teachers that their assessment and/or grading practices are inclusive of student effort and level of perseverance. The data revealed conflicting teacher attitudes toward incorporating perseverance into a grade, as well as teacher concerns over obstacles such as subjectivity, lack of time, and grade inflation, and all in regards to incorporating perseverance or effort level into a student's grade.

Chapter Five: Conclusions and Implications

Summary

This study was driven by my interest in classroom practices that foster a climate of effort and perseverance in order to promote academic achievement. As a high school teacher, I observe that while some students persevere through challenging work, other students have difficulty and tend to avoid challenge or give up easily. This led me to explore research into themes of helping students develop non-cognitive skills such as growth mindset and resilience. To further understand teaching growth mindset, I looked at factors such as perseverance and effort. I completed the literature review to broaden my understanding on classroom practices teachers can implement to help students tackle more challenging work. After reviewing the literature, there are gaps related to research on teacher attitudes and beliefs on such practices as teaching persistence and rewarding effort. As a result, and because teachers' beliefs and attitudes shape the learning environment and impact student outcomes, my research questions were developed around seeking an understanding of teacher attitudes and beliefs, as well as their perceptions on how school culture supports such practices. The purpose of this study was to contribute to existing literature on growth mindset and classroom practices that reward effort by investigating teacher attitudes and beliefs toward teaching perseverance and rewarding effort. The process of this study led me to discussing challenges that teachers face in assessing student effort. In order to gain an understanding of teacher attitudes, data was collected and analyzed through surveys.

I collected data on teacher attitudes and beliefs toward teaching perseverance and rewarding effort. My data was consistent with the literature review research insomuch that persistence, effort, and resiliency are perceived as teachable skills, and that students who possess these skills are perceived as more likely to meet with academic success. My data was consistent

with the literature review research in that teachers believe students are less likely to react negatively to challenge within a classroom culture in which making mistakes is valued as an opportunity for growth. Additionally, teachers were likely to agree that their instructional practices encourage students to try difficult tasks and feel comfortable enough making mistakes and struggling to problem-solve. Teachers did not believe that their assessment and/or grading practices may result in student avoidance to challenging tasks. However, the data indicated a difference in teacher opinion in whether a student's grades should reflect content knowledge and skill level, and not student effort. Data also indicated a difference in opinion to whether their current assessment and/or grading practices reflect (or are inclusive of) student effort.

Most useful, teachers expressed concerns over factors that affect their ability to assess students' level of perseverance, resiliency, or effort. Many factors can impact these traits in a student. Teachers revealed concerns about working against students' fear of making mistakes within in a school and community culture in which perfection and performance is so central. Teachers also identified obstacles when trying to reach struggling students, such as students not willing to put in the work or lacking the patience to actually gain a deep understanding of topics, or students not being developmentally ready for the rigor that is expected of them. Additionally, teachers expressed concerns over subjectivity, lack of time, and grade inflation, all in regards to incorporating perseverance or effort level into a student's grade. Although the literature review highlighted the value of teaching growth mindset and creating a classroom climate where making mistakes is viewed by students as learning opportunities, my data revealed real-life obstacles faced by teachers. Overall, the information gained from my research questions provided valuable discussion points on assessment and grading practices.

In Chapter Five, I will discuss the limitations of this study, specifically areas that I could not control and potential flaws in the data collection and data analysis. This chapter will also address implications for practice by providing ideas for professional discussion and possible professional development. Lastly, I will highlight suggestions for future research that will benefit teachers and educational leaders, and contribute to existing literature.

Limitations

Three limitations affected the study: the sample size, the lack of available data, and the measures used to collect the data. The sample size was somewhat small and not ideal for this study. Of the ninety-five teachers invited to participate, eighty-three completed the survey. The data may have provided more insight if more teachers completed the survey. Those teachers were from three of the nine curricular departments at the schools. Surveying teachers from more departments would have produced more perspectives specific to different content areas.

Related to sample size, the second limitation that affected this study was a lack of available data. Not only would surveying more teachers and from different departments have yielded more information, but I believe interesting and useful perspectives may have been gained if I had reached out to more groups of people. Limited time prevented me from incorporating a wider sample size, but reaching out to students and parents would have allowed this study to present diverse perspectives on the topic of teaching non-cognitive skills such as perseverance and resilience, as well as on assessment and grading practices that do (and do not) reflect student effort.

Finally, the measures used to collect the data affected this study. While the survey was adapted from one used in prior studies, I developed my own questions. While the surveys yield results that address the research questions, I believe aspects of the questions have remained

unanswered and that more in-depth data may have been collected. A method I would like to have tried is the use of in-person focus groups with teachers. I believe this method would have prompted more detailed conversations. I would have liked to learn more about the specific instructional methods teachers are using to promote the development of the perceived critical non cognitive skills such as persistence, effort, and resiliency. I would also like to learn about how confident they feel in designing and implementing such instructional methods. I would like to hear what teachers think would be required to emphasize the learning process with students who are overly concerned with perfection and high achievement and high grades. Additionally, I would like to learn more about how individual teachers specifically teach and/or reward effort in order to support struggling students, or those students who lack the patience to gain a deep understanding of topics, or students not developmentally ready for the rigor that is expected of them.

Implications for Practice

Results from this study have implications for educators and researchers. The study showed that persistence, effort, and resiliency are perceived as teachable skills, and that students who possess these skills are perceived as more likely to meet with academic success. However, the study revealed a difference in teacher opinion about the extent to which a student's grades should reflect content knowledge and skill level, or be inclusive of student effort. The study also revealed a difference in practice to the extent their assessments and/or grading practices currently reflect student effort. As a result of this study, observations were made regarding teachers' attitudes and beliefs toward teaching non-cognitive skills such as persistence and resilience, and assessing student effort. Understanding teacher attitudes and beliefs can help administrators make decisions on the timing, type, and amount of teacher training if the school is

committed to efforts to teach these skills (Brackett et al., p. 232). Ideally, the observations from this study may be useful for discussion as curriculum directors and teachers continuously work to improve instruction and assessment and plan meaningful professional development opportunities.

Educators should consider factors that affect teachers' ability to assess students' level of perseverance, resiliency, or effort. Teachers identified *subjectivity* as well as *lack of time* as obstacles to being able to assess student effort. Perhaps data in this study implies that while teachers perceive these non-cognitive skills as critical for academic success, they may not know how to consistently assess these skills in students, and design activities and instruction that best promote the development of these skills.

The findings suggest that teachers believe that students are less likely to react negatively to challenge if within a classroom culture in which making mistakes is valued as an opportunity for student growth. However, the findings also suggest that teachers may not know how to create such a classroom climate that successfully emphasizes the learning process over perfection when working against students' fear of making mistakes within in a school and community culture in which perfection and performance is so central, a culture in which students are not necessarily interested in improving performance but are focused on the grade. Data may imply that while teachers tended to agree that their instructional, assessment, and /or grading practices encouraged challenge among students, teachers are facing obstacles in reaching struggling students. As noted above, one area that the study highlighted teacher difference in opinion was to the extent that grading should solely reflect content knowledge and skill, or be inclusive of student effort. Ideally, professional development aimed at generating discussion on designing instruction to promote perseverance, creating a culture that emphasizes the learning process over

grades, and reaching struggling students while promoting challenge will improve instruction and assessment and promote student growth.

As limited research exists on teacher attitudes toward classroom practices that teach perseverance and reward for effort, educators and researchers would benefit from further research on practical implementation of instructional and assessment practices that promote non-cognitive skill development such as perseverance, effort, and resilience.

Suggestions for Future Research

Existing research shows that students who possess non-cognitive skills such as persistence, effort, and resiliency are more likely to meet with academic success. However, the limited information on teacher attitudes and comfort level toward classroom practices that teach perseverance and reward for effort suggests an area for future research. While my review of literature and this study have helped me better understand current teacher attitudes at Nutmeg Schools, I would like to learn more about best practices for teachers in creating a classroom climate that emphasizes the learning process over grades within a school and community culture in which perfection and high achievement is valued over the learning process. It would be helpful to conduct research into what strategies other schools have successfully used to meet this challenge.

Conducting research to examine best practices for assessment and grading, and whether grades should be inclusive of effort, may also contribute to existing literature. As educators are talking about skills-based grading, and are expressing concerns over grade inflation and preparing students for the rigor expected of them, the topic of grading for content knowledge and/or effort is an area in need of further research and discussion.

Gaining perspectives from students and parents may prove valuable to existing literature. Considering the use of surveys and focus groups for student and parent populations could generate thoughtful data to investigate some of the obstacles that teachers identified. For example, do students think that effort should be included into their grade? Have they ever felt they earned an A in a class, but completed the course without mastering the skills and knowledge to be successful in the next level? What strategies have parents tried at home to teach the value of perseverance? Research into the perspectives of students and parents could shed light onto some of the teacher concerns.

Investigating the perspectives of special education teachers would contribute significantly to existing research. Since special education teachers work with struggling students across content areas, research to examine the attitudes and beliefs of special education teachers may prove to be beneficial, especially in helping all teachers help struggling students learn to persevere and value the learning process.

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