CERTIFIED STAFF AND TEACHER PERCEPTIONS OF SYSTEMATIC REGULAR CLASSROOM NONCOGNITIVE FACTORS INTERVENTIONS AND THEIR PERCEIVED IMPACT ON STUDENT NONCOGNITIVE FACTORS GROWTH IN ONE MIDWESTERN ELEMENTARY SCHOOL

A Dissertation

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the Faculty of the Graduate School

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In Partial Fulfillment

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Doctor of Education

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by

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Dr. Nissa Ingraham, Dissertation Supervisor

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TEACHER PERCEPTIONS OF STUDENT NONCOGNITIVE FACTORS GROWTH

TEACHER PERCEPTIONS OF STUDENT NONCOGNITIVE FACTORS GROWTH

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

CERTIFIED STAFF AND TEACHER PERCEPTIONS OF SYSTEMATIC REGULAR CLASSROOM NONCOGNITIVE FACTORS INTERVENTIONS AND THEIR PERCEIVED IMPACT ON STUDENT NONCOGNITIVE FACTORS GROWTH IN ONE MIDWESTERN ELEMENTARY SCHOOL

Presented by Dustin L. Brown,

a candidate for the degree of Doctor of Education,

and as a result of this, certify that, in their opinion, it is worthy of acceptance.

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Dr. Nissa Ingraham

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Dr. Timothy J. Wall

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Dr. Sandra Seipel

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Dr. Tonya M. Thompson

DEDICATION

To the educators who strive to make a difference in the lives of students. May you impact them by teaching and modelling the skills that are necessary in life.

ACKNOWLEDGEMENTS

The completion of my doctoral coursework, and this dissertation, would not have been possible without all the support and encouragement of numerous individuals. I am grateful for all who made this work possible.

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ABSTRACT

Noncognitive factors, such as persevering, having grit and self-control, using metacognition and setting goals, and exhibiting a growth mindset, are considered intrapersonal characteristics necessary for lifelong success both in and out of school. However, most U.S. elementary schools do not concentrate specifically on developing most noncognitive factors and may spend less time on such development than in the past. This decreased focus simultaneously stems from and has contributed to a lack of understanding of effective practices for growing individual student noncognitive factors in the classroom setting and lower levels of academic achievement.

This qualitative case study sought to understand educators' perceptions of the impact of schoolwide and regular classroom noncognitive factors interventions on growing student noncognitive factors over time at one U.S. Midwest elementary school. Through surveys, interviews, and focus groups, teachers and other certified staff members shared their experiences growing these factors. The study produced the overarching theme that this development was a long, steady, cumulative process and also found that noncognitive factors interventions were impactful at growing noncognitive factors, giving students ownership over their growth. Some best practices include having the principals and teachers engage in conversations with students about their noncognitive factors, including scores about noncognitive factors on report cards, schoolwide motivators (e.g., brag tags and student-of-the-month awards). Recommendations to improve programming include creating more child-friendly rubrics with pictures for younger students, training parents and new teachers about the rubric, and further developing the program by extending it to middle school and beyond.

SECTION ONE

Introduction to the Background of the Study

The purpose of education in the United States is to "promote student achievement and global competitiveness by fostering educational excellence and ensuring equal access" (United States Department of Education, 2021, p. 1). Elementary schools play a critical role in achieving this purpose, as they provide students with a curriculum that emphasizes reading, writing, mathematics, basic science, social studies, and valuable peer and social interactions (Encyclopedia Britannica, n.d.; Kober et al., 2020; Mead, 2016; Wexler, 2019). Nevertheless, many graduates are not adequately equipped with the knowledge and skills necessary for success beyond high school (Casner-Lotto et al., 2006). The Center for Educational Reform (2018) stated that since the 1983 publishing of the landmark report, *A Nation at Risk*, many attempts have been made to reform public education. However, almost four decades later, the knowledge and skills that students acquire have remained the same or declined compared to progress in prior generations (Center for Educational Reform, n.d.).

This paper sought to review the effectiveness of classroom interventions on the growth of noncognitive factors in the regular elementary school classroom. The Noncognitive Factors Rubric (in which students self-evaluate in relation to these factors) guided the intervention and provided focus, as elementary school teachers and other staff members shared feedback on the effectiveness of growing noncognitive factors and their impact on classroom learning over time. One specific domain of focus was on the effectiveness on growing academic mindsets. Academic mindsets are "beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that supports academic performance" (Farrington et al., 2012, p. 28). A second specific domain of

focus was on the effectiveness on growing academic perseverance. Academic perseverance consists of a student's tendency to complete schoolwork promptly, despite outside distractions, obstacles, or level of difficulty (Farrington et al., 2012). A primary goal of this study was to identify effective classroom practices for growing individual student noncognitive factors in the classroom setting.

Over the past few decades, much attention has been paid to increasing academic preparedness by enacting more rigorous learning requirements, emphasizing mathematics and literacy preparedness (Farrington et al., 2012; Goldstein, 2019). One framework for achieving such goals is the Common Core State Standards Initiative, also known as Common Core. It is a quasi-nationwide set of educational standards designed to prepare K-12 students to be college- and career-ready (Common Core State Standards Initiative, 2021). Common Core developed these standards to address shortcomings leading to the decline and stagnation of the United States' international mathematics and literacy rankings (Applebee, 2013; Goldstein, 2019). For elementary schools, the primary focus is on implementing rigorous mathematics and literacy/language arts standards designed to prepare students for the next grade level and ultimately to "ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college, career, and life" (Common Core State Standards Initiative, 2021, para. 2). Evaluating the success of the Common Core is proving difficult, as there are no easily identifiable ways to measure the success of the standards on student achievement or college and career readiness (Polikoff, 2017).

The reform efforts of Common Core are noble. However, there is insufficient evidence that heightened standards, higher-level coursework, more rigorous graduation

requirements, and standardized testing in the aggregate have led to more students being prepared for the next grade level or graduating with the skills and knowledge necessary for college and career success (Farrington et al., 2012). While most educators have primarily focused on increasing the amount of academic content and the number of skills, reformers have intensified their call for a reexamination of U.S. educational policies and school practices. Reformers seek to place more emphasis on the identification and cultivation of other types of knowledge and skills (Appleby, 2017; Duckworth & Yeager, 2015; Garcia, 2014; Jackson, 2016; Nagaoka et al., 2013, 2015; West, 2016; West et al., 2016).

The nation's elementary schools are tasked with providing students with basic-level knowledge and skills that build from year to year. Elementary school coursework allows students to progress to the next grade, including ultimately advancing to secondary schools. Elementary schoolwork also includes readying students for adulthood by equipping them with the basic knowledge and skills that will allow them to eventually succeed in college and the workforce and that they can employ as active members of society (Mead, 2016; Rodriguez, 2015). Many have argued that too much emphasis has been placed on academic content, while ignoring essential behavioral skills that translate into life success as well as college and career readiness (Scheidegger, 2019).

Over the past decade, a growing movement has emphasized equipping students with skills beyond academic content. These skills, referred to as noncognitive factors, are defined as "patterns of thoughts, feelings, and behaviors" (Borghans et al., 2008, p. 974) that strongly correlate with success in postsecondary education and are highly sought by employers (Nagaoka et al., 2013; Savitz-Romer & Rowan-Kenyon, 2020). Farrington et

al. (2012) emphasized that learners' noncognitive factors also work together to impact their academic behaviors, influencing academic achievement either positively (in their presence) or negatively (in their absence). The immediate impact on educational outcomes of strengthening noncognitive factors is promising and worth more focus in schools, specifically the nation's elementary schools.

Siler (2016) has argued that the list of noncognitive skills can be broad and considerably ill-defined. The list includes, but is not limited to, critical thinking skills, problem-solving skills, emotional health, social skills, work ethic, community responsibility, self-control, self-regulation, persistence, confidence, teamwork, organizational skills, creativity, communication skills, academic mindsets, grit, citizenship, personal development, character, attitude, participation, initiative, communication, independence, collaboration, emotional intelligence, resilience, motivation, locus of control, self-efficacy, metacognition, and self-determination (Duckworth & Yeager, 2015; Farrington et al., 2012; Gutman & Schoon, 2013; West et al., 2016). In this study, noncognitive skills are defined as participation, listening, speaking appropriately, following class rules, self-regulation, completing work on time, positive social interactions, working equitably in group settings, following instructions, and using work time effectively.

This case study provides researchers and practitioners with more knowledge related to the implementation of proactive noncognitive factor interventions focused on student self-evaluation and teacher feedback using the Noncognitive Factors Rubric in the elementary school classroom setting. This case study provides classroom teachers with best instructional practices that focus on growing student noncognitive factors over

time. The results of this study enhance the current knowledge base and can provide practitioners with research-supported strategies related to noncognitive factors interventions and the subsequent growth of student noncognitive factors in the regular elementary school classroom.

Problem Statement

There is considerable potential in the realm of growing individual's noncognitive factors (Bifulco, 2017; Farrington et al., 2012; Paunesku et al., 2015; Warren & Hale, 2016; Yeager et al., 2016; Yeager & Walton, 2011). Social-cognitive research has shown that cognitive ability and noncognitive factors develop differently (Bjorklund-Young, 2016; Borghans et al., 2008). An individual's cognitive ability typically peaks in late adolescence, while noncognitive factors can continue to grow into late adulthood (Bjorklund-Young, 2016; Borghans et al., 2008). Research has also shown that noncognitive factors interventions can successfully help students grow their noncognitive factors (Bifulco, 2017; Paunesku et al., 2015; Warren & Hale, 2016; Yeager et al., 2016; Yeager & Walton, 2011); however, many of these interventions have occurred outside the everyday classroom context, and often, independent of regular instruction.

The issue is that in many U.S. elementary schools, noncognitive factors development takes a secondary role to improving academic content and skills. Noncognitive factors are hidden within the grading system, and educators place less emphasis on their development (Bjorklund-Young, 2016). According to Marzano and Heflebower (2011), the current grading structures utilized by many of the nation's schools are intended to simplify and standardize grade reporting. However, the system of letter grades serves a negative purpose in relation to identifying needs in noncognitive

areas because the grading system combines academic proficiencies with student behaviors (Schimmer, 2016) and other noncognitive factors (Farrington et al., 2012). This model creates an unclear system of grading that provides neither students, parents, nor teachers with specific information pertaining to either academic achievement or noncognitive factors development (Schimmer et al., 2018). Including noncognitive factors within academic marks inhibits the ability to focus on, teach, model, assess, and target these skills for improvement (O'Connor & Wormeli, 2011; Scheidegger, 2019). Because noncognitive factors are often a hidden component of student grades, they have assumed a lesser role in elementary school education. Ultimately, there is little practitioner knowledge surrounding which noncognitive factors are most critical to develop in students and how best to support their growth in the classroom. The aforementioned issues are reasons for the reduced emphasis on explicitly teaching and growing these skills in classrooms (Bjorklund-Young, 2016).

Decreased focus arose from and has also led to a specific problem: there is a lack of understanding of effective practices for growing individual student noncognitive factors in the classroom setting, resulting in less emphasis on growing these skills within regular classroom instruction (Bjorklund-Young, 2016). This lessened and inadequate focus also leads to lower levels of academic achievement (Farrington et al., 2012). Therefore, it is essential to identify which noncognitive factors should be targeted for growth, develop evaluation tools and procedures for assessing student growth in these areas, and implement best practices for facilitating such growth in the classroom. Unlike many elementary schools in the U.S., River Valley Elementary School (pseudonym) has developed structures and procedures for students to self-evaluate and for teachers to

provide feedback on noncognitive factors as an aspect of regular classroom instruction. Thus, a primary goal of this study was to identify staff perceptions about which classroom practices and schoolwide procedures are the most successful in helping students grow their noncognitive factors.

While research has shown evidence that noncognitive factors can be grown with classroom interventions (Bifulco, 2017; Paunesku et al., 2015; Warren & Hale, 2016; Yeager et al., 2016; Yeager & Walton, 2011), most studies have focused on noncognitive factors in isolation, and most interventions have occurred independently of regular classroom instruction (Bjorklund-Young, 2016; Farrington et al., 2012; West et al., 2016). Therefore, this study addressed the gap in the literature by identifying best classroom practices for growing student noncognitive factors over time as an aspect of regular elementary classroom instruction.

Purpose of the Study

Teachers play a critical role in helping to equip students with academic knowledge and skills as well as the noncognitive factors necessary for their success (Dweck et al., 2014; Jackson, 2016). Over the past few decades, most teachers' instructional emphasis has centered on teaching academic content while still helping students grow their noncognitive factors (Jackson, 2018). There is substantial research that classroom strategies and context facilitate the growth of noncognitive factors, but most of these skills are difficult to measure, as they manifest primarily through academic behaviors (Farrington et al., 2012).

The purpose of this study was to address the gap in research surrounding the lack of best classroom practices for growing elementary student noncognitive factors as an

aspect of regular classroom instruction. This study evaluated teachers' and other certified staff members' perceptions of the effectiveness of using the Noncognitive Factors Rubric to guide noncognitive factors programming and interventions aimed at growing student noncognitive factors over time. This study also sought to identify the best classroom practices for growing elementary student noncognitive factors based on teacher/staff perceptions.

Research Questions

This qualitative case study answered the following overarching question: "According to elementary school educators, what impact do schoolwide noncognitive factors programming and interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time?"

The following underlying questions helped to focus this study:

1. How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth?
2. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?
3. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?
4. According to elementary school educators, which classroom and schoolwide practices most significantly impact student noncognitive factors growth?

Theoretical Framework

Five Noncognitive Factors Model

The five noncognitive factors model, a theoretical framework posited by Farrington et al. (2012), was used in this study to analyze the impact of systematic noncognitive factors interventions (guided by the Noncognitive Factors Rubric) to grow student noncognitive factors over time. The key noncognitive factors described in the Noncognitive Factors Rubric are described in Table 1. Farrington et al. (2012) theorized this model from previous research surrounding noncognitive skills, factors, and other noncognitive behaviors. Each noncognitive factor works both independently and reciprocally to impact student academic performance. Each of the five noncognitive factor categories are explained in the sections following Table 1.

Table 1

Key Factors in the Noncognitive Factors Rubric

Rubric Learning Skills	Rubric Descriptions	Key Noncognitive Factors
Student engagement	Actively participating	Participation
	Listening and speaking appropriately	Communication skills
	Following class rules and not distracting others	Self-Regulation
	Recognizing areas of self-growth	Metacognition, academic mindsets, and self-determination
Responsibility	Completing and submitting assignments on time	Work ethic and organizational skills
Collaboration	Responding positively to the ideas, opinions, and values of others	Social skills, community responsibility, and communication skills

Rubric Learning Skills	Rubric Descriptions	Key Noncognitive Factors
	Equitably working in groups	Collaboration, participation, and communication
Independent work	Effectively using work time/following instructions	Self-Regulation, organizational skills, and independence
	Managing workload effectively	Self-Regulation, organizational skills

Note. The Noncognitive Factors Rubric is organized into four learning skills. Each learning skill has one or more descriptions to specify the skills that the rubric assesses. The key noncognitive factors associated with the rubric descriptions are listed in column 3.

Academic Behaviors

Academic behaviors are observable behaviors that lead directly to academic performance. These behaviors are easy to monitor, describe, and measure and are associated with being a good student, such as regular attendance, arriving ready to learn, paying attention, participating in instructional activities, and completing assignments in and out of class (Farrington et al., 2012). According to Farrington et al. (2012), "virtually all other noncognitive factors work through academic behaviors to impact academic performance" (p. 8). Behavior is the vehicle by which cognitive and noncognitive factors impact student academic achievement (Conard, 2006). Psychologists view human behavior as malleable and possible to change, including academic behaviors (Ryan & Deci, 2000; Skinner, 1953; Snipes & Tran, 2017; Staats & Staats, 1963).

Academic Perseverance

Academic perseverance consists of a student's tendency to complete schoolwork promptly, despite outside distractions, obstacles, or level of difficulty (Farrington et al., 2012). Academic perseverance consists of two related concepts, grit and self-control. Duckworth et al. (2007) define grit as "perseverance and passion for long-term goals" (p. 1087). Self-control differs from grit and is conceptualized as one's ability to focus on finishing short-term obligations by avoiding impulsive behavior (Duckworth et al., 2007). School and classroom contexts play a substantial role in impacting a student's perseverance, whether directly or indirectly (Farrington et al., 2012). The use of classroom interventions and the creation of classroom contexts that focus on developing positive academic mindsets have a strong likelihood of fostering students' ability to participate in and continue at academic tasks (Dweck et al., 2014).

Learning Strategies

Learning strategies are processes and tactics utilized by students to help them learn (Farrington et al., 2012). Students can use effective strategies to enhance their academic behaviors to aid in the process of learning; these include mnemonic devices, self-monitoring strategies, metacognition, self-correction strategies, goal setting, and time management (Credé & Kuncel, 2008; Flavell, 1979; Zimmerman & Moylan, 2009; Zimmerman & Schunk, 1989).

Social Skills

Social skills are interpersonal qualities, such as cooperation, assertion, responsibility, and empathy, that improve interactions between students and their peers as well as between students and their teachers (Farrington et al., 2012). Social skills are

essential to future employers and are markers of good workers; however, their impact on academic performance is tenuous and correlational at best (Casner-Lotto et al., 2006; Durlak et al., 2011; Farrington et al., 2012; Malecki & Elliott, 2002; Murnane & Levy, 1996; Wentzel, 1991, 1993).

Academic Mindsets

Academic mindsets are "beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that supports academic performance" (Farrington et al., 2012, p. 28). A robust history of psychological research supports academic mindsets, including achievement goal theory (Dweck, 1986; Dweck & Leggett, 1988), social learning theory (Bandura, 1977; Rotter, 1954), attribution theory (Weiner, 1979), expectancy theory (Vroom, 1964), expectancy-value theory (Atkinson, 1957, 1964), self-efficacy (Bandura, 1986), locus of control (Rotter, 1954), and stereotype threat (Steele, 1997; Steele & Aronson, 1995). In addition, Farrington et al. (2012) organize academic mindsets into four domains: (a) "I belong to this academic community," (b) "my ability and competence grow with my effort," (c) "I can succeed at this," and (d) "this work has value for me" (p. 28).

School and Classroom Contexts

The five noncognitive factors model (Farrington et al., 2012) is set within two overlapping settings: school and classroom. Each of these contexts plays a substantial role in the experiences that students encounter daily and each contains a wide array of variables that may impact student academic performance. For example, school contexts could include the culture of the school, schoolwide grading policies, schoolwide procedures, schoolwide safety protocols, the collective attitude of the faculty/staff, and

the collective attitudes of the student population (Farrington et al., 2012). Classroom contexts include the relationships within a classroom, including the levels of support, grading structures, norms of behavior, and the depth of feedback provided by the teacher to the students (Farrington et al., 2012). This is by no means an exhaustive list of classroom contexts. Most importantly, both school and classroom contexts have a considerable impact on academic mindsets, behaviors, and, ultimately, performance (Farrington et al., 2012).

Design of the Study

This qualitative case study gathered the participants' perceptions of elementary students' noncognitive factors growth (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Mertens, 2020). The researcher utilized surveys, interviews, focus groups, and document analysis to generate data and identify findings using the constant comparative method (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Mertens, 2020). A case study is an in-depth analysis of a phenomenon within a bounded system using empirical data to explain the phenomenon (Merriam & Tisdell, 2016; Mertens, 2020). This study employed a constructivist worldview that emphasized the social construction of the experiences faced by the participants in order to tell their stories and to better understand the phenomenon being studied (Mertens, 2020).

Setting

River Valley Elementary School (pseudonym) is a public elementary school located in the midwestern United States. Situated in a rural-suburban area, it is one of 11 elementary schools in the North School District (pseudonym). River Valley Elementary has approximately 497 students in grades K-5 and serves an area that includes many

single-family homes. The community is described as a bedroom community because many working adults commute to jobs throughout the nearby metropolitan area. Established in 1960, River Valley Elementary School was the first school to be built away from the original campus in the North School District, which was needed due to the district's growing population. River Valley enrolls the second largest number of elementary school students in the district.

Participants

This study incorporated three data collection methods: surveys, teacher interviews, and focus groups. These varied data collection methods provided insights into this particular case and allowed for triangulation to support valid findings (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). In addition, the researcher provided each participant with a pseudonym to protect their identity and the identity of the organization (Creswell & Creswell, 2018).

Survey

The survey participants were chosen through convenience sampling and included two groups: certified teachers and peripheral staff members. The certified teachers were directly involved in the classroom treatment, as they had provided all of their students with noncognitive factors interventions within their classroom setting and as an aspect of their instructional delivery. Peripheral staff were certified, non-regular classroom staff who were not directly responsible for noncognitive factors intervention implementation in a classroom setting. Peripheral staff included the assistant principal, guidance counselor, reading specialist, and math interventionist. In addition, the researcher provided prospective participants with an overview and purpose of the study. All certified

teachers and certified peripheral staff members were invited to participate in the study and subsequent survey.

Merriam and Tisdell (2016) describe an intrinsic case as one in which a phenomenon is investigated within its real-life context. The participants were identified because River Valley Elementary School is considered an intrinsic case because it implements the Noncognitive Factors Rubric as a foundation of its educational program. Their focus on noncognitive factors growth and their subsequent use of the Noncognitive Factors Rubric was unique when compared to other elementary schools in the United States.

This study sought to identify the effectiveness of the Noncognitive Factors Rubric and best practices for growing noncognitive factors over time in the regular elementary classroom setting. Noncognitive factors highly influence academic achievement (Farrington et al., 2012), and they can predict long-term student academic achievement and lifelong success beyond formal schooling (Borghans et al., 2008; Bowles et al., 2001; Conley, 2007; Credé & Kuncel, 2008; Duckworth et al., 2007; Garcia, 2014; Geiser & Santelices, 2007; Gutman & Schoon, 2013; Heckman et al., 2006; Lleras, 2008; Nagaoka et al., 2013, 2015; Savitz-Romer & Rowan-Kenyon, 2020; Sparkman et al., 2012; West, 2016). However, this study focused more narrowly on kindergarten through fifth grade students and the teachers and peripheral certified staff members who worked directly with them.

Survey participants were recruited through an email invitation (see Appendix A) and provided with an overview of the study, its purpose, an informed consent form (see Appendix B), and how the results would be used to improve noncognitive factors

interventions within River Valley Elementary School and to add to the knowledge base surrounding noncognitive factors interventions in the educational literature.

Interviews

Teacher interview participants were selected through a type of purposive sampling called typical case sampling (Mertens, 2020). Typical case sampling aims to describe program implementation by focusing on those participants who are representative examples of the case and from which the most can be learned (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Mertens, 2020). It was also necessary to identify participants who have implemented the intervention with fidelity. Implementation fidelity is defined as "the degree to which a program model is instituted as intended" (Dhillon et al., 2015, p. 9). Based on the survey results, teacher interview participants were identified and invited to participate based on the fidelity of their intervention implementation. Implementation fidelity was used to select participants due to their rich and deep understanding of the phenomenon being studied (Merriam & Tisdell, 2016). It was necessary to recruit interview participants with extensive experience implementing noncognitive factors interventions in their classrooms, as they have the most information to share about the phenomenon (Merriam & Tisdell, 2016). Utilizing purposive sampling had the potential to limit the findings by narrowing the study and possibly ignoring the voices of those who could identify areas of improvement within their noncognitive factors intervention program (Merriam & Tisdell, 2016). However, the researcher emphasized understanding best practices related to noncognitive factors interventions as a key component of this study; therefore, it was crucial to identify those who could provide an in-depth understanding of this information-rich case

(Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Information-rich cases are those in which a considerable amount of in-depth data are collected so that researchers can learn a great deal about the issue being studied (Merriam & Tisdell, 2016).

Identifying the fidelity of implementation occurred through the analysis of the survey instrument, utilizing Questions 1 through 6 of the implementation section of the survey. Points were assigned to each response type, and the total points were calculated. Responses were scored as the following: *strongly agree* = 1 point, *agree* = 2 points, *no opinion* = 3 points, *disagree* = 4 points, *strongly disagree* = 5 points. Participant scores were ranked in ascending order from lowest to highest score. The researcher chose the highest ranked teacher from each grade level, kindergarten through fifth grade, with the goal of interviewing one teacher from every grade. Interview participants were invited through an email invitation (see Appendix C). The researcher selected participants from all grade levels, except for third grade, where no teacher accepted the invitation to participate.

Focus Groups

Researchers often use focus groups to gain a deeper understanding of an issue through the eyes and hearts of the staff who implement a program (Krueger & Casey, 2015). In addition, the researcher utilized a multiple-category design, which allowed for comparisons from one group to another (Krueger & Casey, 2015). The researcher conducted two focus groups, each with four participants. Krueger and Casey (2015) state that the ideal number of participants is between five and eight, to allow participants to feel comfortable and promote self-disclosure. Unfortunately, the researcher fell short of this goal due to participant illnesses. As is the case with other qualitative methods in this

study, participants were provided with a pseudonym to protect their identity and the identity of the organization (Creswell & Creswell, 2018).

Classroom Teacher Focus Group. The first focus group was comprised of regular classroom teachers who had directly implemented the interventions in their classrooms. The researcher utilized purposive sampling to select participants for this group. Purposive sampling, a nonrandom method where participants are selected because of characteristics the researcher wants to study, was employed to have representation from as many grade levels as possible. Purposive sampling allowed for participants in both focus groups with a rich understanding of the best practices to be engaged during the intervention process (Merriam & Tisdell, 2016). The researcher encouraged participants to have conversations and to build on one another's comments to gain a deeper understanding of the phenomena under question (Krueger & Casey, 2015).

Classroom teacher focus group participants were invited by email (see Appendix D) and were provided with an opportunity to consent to their participation in the study. They were provided with the purpose of the study, research procedures, an overview of possible risks, potential successes of the research study, length of time requirements, a statement of voluntary participation, and the participants' right to confidentiality and right to withdraw from the study (American Education Research Association, 2011; Fink, 2015; Seidman, 2013) (see Appendix B).

Peripheral Staff Focus Group. The second focus group was composed of peripheral staff members. Participants in this group were also identified through purposive sampling. This focus group included the assistant principal, counselor, reading specialist, and math interventionist. These participants were chosen because they had

unique insights and knowledge about this case (Merriam & Tisdell, 2016), specifically the impact of the intervention using a schoolwide lens, while not being involved in the direct application of the intervention in the classroom.

Peripheral staff focus group participants were invited by email (see Appendix E) and were provided with an opportunity to consent to their participation in the study. They were provided with the purpose of the study, research procedures, an overview of possible risks and discomforts, successes that might occur due to participating in a research study, length of time requirements, a statement of voluntary participation, and the participants' right to confidentiality and right to withdraw from the study (American Education Research Association, 2011; Fink, 2015; Seidman, 2013) (see Appendix B).

Data Collection

This case study utilized three data collection methods: surveys, interviews, and focus groups. Utilizing these methods resulted in triangulation (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Mertens, 2020). Triangulation is a validity procedure in which the researcher examines and corroborates multiple data sources to build logical claims for emerging themes (Mertens, 2020). Triangulation allowed for increased trustworthiness and made the results more valid (Creswell & Creswell, 2018). As a key aspect of ethical research, the University of Missouri-Columbia Institutional Review Board (IRB) reviewed the study's methodology, tools, and communications to ensure that all participants received ethical treatment (Creswell & Creswell, 2018). Participants were provided with an overview of the study, the possible risks and rewards, and were told that their participation was voluntary and confidential and that they could withdraw from the

study at any moment (Krueger & Casey, 2015). Participants were given and agreed to informed consent prior to participating (Creswell & Creswell, 2018).

Survey

Before utilizing the survey as part of the research study, the survey instrument was field-tested with a pilot group of teachers and staff to ensure that the questions were easily understood and captured the desired data. The researcher invited all certified teachers and all certified peripheral staff members to participate in the Noncognitive Factors Intervention Online Survey (see Appendix F). The purpose was to gather descriptive statistics, collect demographic data on the participants, collect data about classroom noncognitive factors interventions and their perceived success in growing student noncognitive factors, and identify common best practices for growing noncognitive factors in the classroom setting. The primary goals of this survey were to identify the scope of noncognitive factors interventions as an aspect of regular classroom instruction and to identify which noncognitive factors intervention practices were most successful in growing these skills over time. Participants were invited via a blind carbon copy email (see Appendix A). This method employed purposive sampling, discussed above.

This study's survey was adapted with permission from the Bailey Tarver TST/RTI Survey (Rhodes, 2014) (see Appendix G). The fact that the research-backed survey instrument has been implemented by practitioners and that this study's survey was adapted from it lends credence to the validity and reliability of this study's findings in the minds of researchers and practitioners.

Interviews

The researcher conducted interviews with five regular grade-level classroom teachers working within the chosen site. These participants were chosen for interviews because each of their individual experiences was unique and was considered to provide an excellent basis for understanding the treatment (Creswell & Creswell, 2018). The baseline number of interviews was set at six to facilitate a minimum of one interview per grade level, kindergarten through fifth grade. However, the researcher was unable to secure a participant from third grade, even with multiple prospective participants invited to the study. Interviews occurred via Zoom videoconferencing software with open-ended questions that elicited the views and opinions of the participants (Creswell & Creswell, 2018). Interviews ranged from approximately 30 minutes to one hour and were guided by the interview question protocol (see Appendix H).

The researcher utilized a constant comparative analysis method to generate findings from the interviews, adjust the questions asked of the participants, and inform the need for additional interviews (Mertens, 2020). Constant comparative analysis allows a qualitative researcher to link findings, explain phenomena, and describe relationships between those findings (Merriam & Tisdell, 2016).

Focus Groups

Focus groups were utilized to generate a deeper understanding of the implementation of noncognitive factors interventions at the school. The main goal was to solicit a deep understanding of classroom strategies and their success in growing noncognitive factors. Krueger and Casey (2015) argue that a focus group has the capacity to be more than the sum of its parts. In other words, bringing together a group of

experienced practitioners allowed for a profound understanding of the topic of study. The researcher conducted two separate and distinct focus groups.

Classroom Teacher Focus Group. The first focus group consisted of four teachers and focused on classroom implementation, perceived intervention outcomes, schoolwide best practices, suggestions for improvement, and general best practices. The teacher focus group met via Zoom, and an interview protocol of questions was used to probe deeper into the topic of noncognitive factors to discover more rich information about the intervention's success within the classroom setting. This focus group was recorded using Zoom video software, the transcription was produced, and data were coded and themed. The teacher focus group questions centered on classroom best practices, schoolwide best practices, areas for possible improvement, and perceived intervention outcomes (see Appendix I).

Peripheral Staff Focus Group. The second focus group contained peripheral staff members, including the assistant principal, counselor, reading specialist, and math interventionist. The peripheral staff group met via Zoom, and an interview protocol of questions was used to probe staff perceptions of the impact of noncognitive factor interventions on the total school environment (see Appendix J). This focus group was recorded using Zoom video software, the transcription was produced, and data were coded and themed. Each focus group provided the researcher with a much deeper understanding of the success of the noncognitive factors interventions and a list of strategies that teachers and staff perceived to work successfully.

Data Analysis

The survey instrument was provided to participants via the software management firm Qualtrics, and subsequent data were collected and initially organized using that program. Data included participants' descriptive statistics and their perceptual feedback. In addition, the researcher analyzed the survey results and coded them based on common vocabulary and themes that revealed themselves in the findings.

Each teacher interview as well as the two focus groups were Zoom-recorded to ensure complete transcripts. The initial transcription occurred using the Zoom videoconferencing software before switching to a web-based online transcription service to ensure greater accuracy (Krueger & Casey, 2015; Merriam & Tisdell, 2016). Each transcript employed member checks to strengthen the findings of this study, as participants were provided opportunities to confirm or deny the generated themes and findings (Mertens, 2020). The use of member checks ensured accuracy and internal validity (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Seidman, 2013). Each interview and focus group participant received an email script (see Appendix K) that invited them to participate in the member check process. Each participant received the full transcript and initial codes and themes from their interview. They were given the opportunity to confirm, deny, or clarify the researcher's initial takeaways. The researcher utilized open-coding procedures to ensure that all relevant information was considered in the analysis process (Merriam & Tisdell, 2016). Open coding was so named by Merriam and Tisdell (2016) because it is a process in which the researcher is open to any information that the data may provide. The researcher utilized the constant comparative analysis method with the survey results and interview transcripts to inform any necessary

changes or additions to the subsequent interview and focus group protocols (Mertens, 2020; Merriam & Tisdell, 2016).

After the survey results, interviews, and focus groups were completed, the researcher used triangulation to identify patterns and themes from these data using independent open coding (Creswell, 2014; Merriam & Tisdell, 2016). Themes and patterns were identified by the vernacular language used to answer the questions provided in the survey, interviews, and focus groups (Krueger & Casey, 2015; Merriam & Tisdell, 2016). The repetition of common words and language were used to identify themes, and patterns emerged. The researcher developed a master list of themes that was developed throughout the coding process. The list of themes was analyzed as a baseline to compare to subsequent interviews and focus groups (Merriam and Tisdell, 2016). The researcher looked for patterns and similarities within these data (Merriam & Tisdell, 2016).

After open coding occurred for all data collection methods, the researcher coded all findings into related schemes using axial coding procedures (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Axial coding is a process in which categories are compared to each other to refine the nature of the categories (Merriam & Tisdell, 2016). The researcher identified the responses most strongly connected to the study's research questions (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). The findings included direct quotes from the participants' responses to ensure that the findings provide a thick, rich description to aid in validity and transferability to other cases (Creswell & Creswell, 2018; Merriam & Tisdell, 2016).

Delimitations, Limitations, and Biases

Delimitations

The delimitation in this study is the single site in which the study occurred. This single site allowed the study to be focused on teachers' perceptions of their abilities to impact student noncognitive factors. Controlling parameters allowed the study to be focused and for manageable results to be generated (Creswell & Creswell, 2018; Merriam & Tisdell, 2016).

Limitations

One limitation of this study was the list of noncognitive factors chosen for treatment. It is by no means an all-encompassing listing of possible factors. According to West et al. (2016), research on noncognitive factors is in its infancy, and there is little agreement on which factors are most needed. Duckworth & Yeager (2015) argue that how researchers measure noncognitive factors matters, but how best to accomplish that is still unknown.

A second limitation was that one researcher conducted the study and provided subsequent data analysis through open coding. Having only one researcher was a limitation because additional researchers may have found different patterns, codes, and themes within the analysis. One researcher means one assumptive truth created the patterns, codes, and themes (Merriam & Tisdell, 2016).

A third limitation was the single site chosen for the case study. The chosen site had a large population of regularly represented students and a very small enrollment of underrepresented racial populations. These demographics may not be representative of most elementary schools in the United States. The demographics of the student

population may limit transferability to other elementary schools. Although using only one site allows for rich data collection, it can limit the external validity and transferability to other schools and organizations where noncognitive factors may be developed (Mertens, 2020).

Biases

It is essential to consider the possible biases one may bring into a study and guard against these biases (Merriam & Tisdell, 2016). One bias that the researcher may have held is his prior use of noncognitive factors to promote student growth in his classroom. The researcher had previous experience evaluating noncognitive factors separately from course grades. The researcher's prior experience could have led to confirmation bias toward the effectiveness of evaluating noncognitive factors in the classroom (Mertens, 2020). To avoid confirmation bias, the researcher utilized multiple data collection methods to triangulate data and allowed participants to perform member checks throughout the coding process (Merriam & Tisdell, 2016; Mertens, 2020).

Definition of Key Terms

Academic Achievement

Academic achievement is measured by student's academic success in their school coursework and on standardized tests (Farrington et al., 2012).

Academic Behavior

Academic behavior is an observable and easy-to-measure student behavior that relates directly to success in school. Academic behaviors include attendance, participation, readiness, and homework completion (Farrington et al., 2012).

Academic Mindsets

Academic mindsets are student's "beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that supports academic performance" (Farrington et al., 2012, p. 28).

Academic Perseverance

Academic perseverance is a student's "tendency to complete school assignments in a timely and thorough manner, to the best of their ability, despite distractions, obstacles, or level of challenge" (Farrington et al., 2012, p. 9).

Assistant Principal

The assistant principal is a school administrator who assists the head principal in the school's day-to-day operations by overseeing students, certified teachers, and other school staff.

Best Practices

Best practices refer to instructional strategies that successfully support student learning in a particular setting. They are identified by data analysis to determine their impact on educational outcomes.

Certified Teacher

This classroom educator is certified in their state or jurisdiction. Classroom teachers oversee the instruction of students by designing lesson plans and facilitating learning.

Classroom Practices

Classroom practices are the actions and strategies that teachers and students employ during the teaching and learning process. They can include procedures, strategies,

and instructional methods employed by teachers as well as behaviors, procedures, and strategies students use to help them learn.

Elementary School

This educational institution focuses on primary instruction in kindergarten through fifth grade.

Guidance Counselor

The guidance counselor is a certified school staff member who helps students with social, emotional, and academic outcomes.

Head Principal

This school administrator oversees the school's day-to-day operations by supervising students, certified teachers, and other school staff.

Intervention

An intervention is a set of steps that an educator takes to help students improve their academic or behavioral outcomes (Lynch, 2019).

Learning Strategies

Learning strategies are processes and tactics used by students to enhance their academic behaviors and aid in learning (Farrington et al., 2012).

Noncognitive Factors

Noncognitive factors are skills, beliefs, and contexts that impact student achievement and lifelong success but are uniquely different from academic content (Borghans et al., 2008; Farrington et al., 2012). They include perseverance, self-control, metacognition, goal setting, etc.

Peripheral Staff

These include both certified and noncertified staff members who are not directly involved in the classroom process of teaching and learning.

Regular Classroom Teacher

In an elementary school, this certified teacher works in a regular, grade-level kindergarten through fifth-grade classroom.

Social Skills

Social skills are student behaviors that impact social interactions and the classroom context (Farrington et al., 2012).

Significance of the Study

This qualitative study was designed to help address the gap in research surrounding classroom-ready strategies for growing elementary school students' noncognitive factors as an aspect of regular classroom instruction. This study evaluated the use of the Noncognitive Factors Rubric to guide student self-assessment and teacher feedback around identified noncognitive factors and the impact of this instruction on noncognitive factors growth over time.

Scholarly Component

For nearly 50 years (Farrington et al., 2012), researchers have discussed the possible impacts of noncognitive factors. And since the early 2000s, there has been a resurgence in focus on noncognitive factors as an essential aspect of preparedness for future success (Duckworth & Yeager, 2015; West et al., 2016). Additionally, there is evidence that noncognitive factors have significant impact and can be grown, yet there is a lack of research-backed, classroom-ready practices that can be employed to grow

noncognitive factors (Farrington et al., 2012; Nagaoka et al., 2013). This study was designed to contribute to the scholarship related to noncognitive factors by providing helpful information about implementing effective classroom strategies.

Practitioner Component

Many of the educational reform efforts over the past 25-plus years have focused on school and teacher accountability, designed to prepare students for success through rigorous coursework and standardized testing (Farrington et al., 2012). However, policy efforts have mostly ignored the value of noncognitive factors in developing students who are considered to be college- and career-ready (Garcia, 2014; West, 2016). One of the goals of this study was to determine whether there is practical value in evaluating and helping students grow their noncognitive factors. This study has illuminated the impact that intentional focus on noncognitive factors can have on student success.

Teachers at the research site have spent considerable effort making noncognitive factors growth an aspect of their instructional practices. For example, they intentionally provide feedback to students about their noncognitive factors and provide both students and families with noncognitive factors growth data each quarter as a part of the grade reporting process. This study allowed faculty and staff members to reflect upon their practices for providing feedback to students and for growing noncognitive factors. This reflection allowed faculty and staff members to evaluate their practices while providing the researcher with rich data to identify promising practices in growing noncognitive factors in elementary-age students.

Summary

Noncognitive factors are a significant aspect of student success. There has been increasing interest in focusing more on noncognitive factors development as a component of preparing students for successful, productive lives. Much of the research points to noncognitive factors as noteworthy for individual success and capable of growth by employing specific interventions. However, the literature does not show a clear path for growing multiple noncognitive factors using a noncognitive factors rubric to guide student self-assessment and teacher feedback. Using the five noncognitive factors framework created by Farrington et al. (2012), this study evaluated the effectiveness of these strategies.

Through surveys, interviews, and focus groups, the researcher gathered feedback from teachers, and the assistant principal, counselor, reading specialist, and math interventionist. These data provided the researcher with valuable insights into the effectiveness and promise of focusing efforts in the classroom to impact student noncognitive factors.

SECTION TWO

Practitioner Setting for the Study

Over the past decade-plus, there has been a resurgence in research and practitioner interest surrounding noncognitive factors and their impact on academic outcomes and long-term post-schooling success (Borghans et al., 2008; Bowles et al., 2001; Conley, 2007; Credé & Kuncel, 2008; Duckworth et al., 2007; Farrington et al., 2012; Garcia, 2014; Geiser & Santelices, 2007; Gutman & Schoon, 2013; Heckman et al., 2006; Lleras, 2008; Nagaoka et al., 2013, 2015; Savitz-Romer & Rowan-Kenyon, 2020; Sparkman et al., 2012; West, 2016). Although interest has been renewed, teaching behavioral aspects (e.g., timeliness, responsibility, cooperation, and effort) and other noncognitive factors has likely always been an aspect of traditional schooling (Farrington et al., 2012). However, throughout the 1900s, many of the grading practices in elementary and secondary schools in the United States were simplified and standardized to group student academic outcomes with noncognitive factors (Schimmer, 2016). These grading practices placed less explicit focus on noncognitive factors, whose manifestations lay hidden within academic grades (Farrington et al., 2012; Schimmer, 2016; Schimmer et al., 2018). These practices have led to less practitioner focus on growing individual student's noncognitive factors as an aspect of regular classroom instruction (Bjorklund-Young, 2016), thus forcing noncognitive factors education to be a secondary or nonexistent aspect of the educational process in many schools.

However, this resurgence in interest has brought noncognitive factors back to the forefront in educational circles. Since the early 2010s, there have been numerous research studies that focused on the impact that school-based interventions can have on student

noncognitive factors growth (Bifulco, 2017; Blackwell et al., 2007; Bray, 2014; DiNapoli, 2018; Paunesku et al., 2015; West et al., 2016; Yeager et al., 2016). This development is considered worthwhile due to the immediate impact that noncognitive factors growth has on student academic achievement and these factors' long-term predictive abilities for success in adulthood (Akos & Kretchmar, 2016; Borghans et al., 2008; Bowles & Gintis, 2002; Bowles et al., 2001; Broghammer, 2017; Casner-Lotto et al., 2006; Conley, 2007; Credé & Kuncel, 2008; Garcia, 2014; Heckman et al., 2006; Heckman & Kautz, 2013; Lleras, 2008; Merchant et al., 2018; Nagaoka et al., 2013, 2015). Much research is needed to identify which noncognitive factors are most valuable for students and how best to grow them in the regular classroom setting.

As a high school classroom teacher in the midwestern United States, the researcher saw firsthand the importance of noncognitive factors in his students' learning outcomes. He also found a lack of emphasis in his practitioner setting on identifying which skills were essential to grow and how best to grow them. As such, he identified what he believed were necessary skills and developed a learning behaviors rubric that he used with his students to teach expected behaviors and to allow students to self-evaluate their growth progress. The researcher no longer serves as a classroom teacher; however, in his current role, he sees a substantial need to grow behaviors that impact academic outcomes and long-term student success. This research study focused on one unique case by assessing the perceived impact of systematic noncognitive factors interventions on the growth of student noncognitive factors in the regular elementary school classrooms in one school.

Historical Background

The following section provides an overview of the organization where the research study occurred. In addition, the researcher has provided a detailed organizational history, demographics of the student population and staff, a brief history of the organization's noncognitive factors interventions, background about the Noncognitive Factors Rubric, and organizational and leadership analyses of River Valley Elementary School.

River Valley Elementary School

River Valley Elementary School (pseudonym) is a public elementary school located in the midwestern United States. Situated in a rural-suburban area, it is one of 11 elementary schools in the North School District (pseudonym). River Valley Elementary has approximately 497 students in grades K-5 and serves an area that includes many single-family homes (North School District, 2022). The community is described as a bedroom community because many residents commute to jobs throughout the nearby metropolitan area. Established in 1960, River Valley Elementary School was the first school in the North School District to be built away from the original campus (Simpson, 2014). The school was needed due to the district's growing population, where River Valley now enrolls the second largest number of elementary school students in the North School District (Missouri Department of Elementary and Secondary Education [MO DESE], 2021).

River Valley is more ethnically diverse than most elementary schools in the North School District. Of River Valley's 497 students, 87% are White, and 13% are students from underrepresented racial groups. Nearly 48% of its student population qualifies for

free and reduced lunches, and 21% of students have an Individualized Educational Plan (IEP) (MO DESE, 2019). River Valley has 35 certified teachers and staff, of which 59% have advanced degrees, with an average of 15 years teaching experience. River Valley also employs a guidance counselor, an assistant principal, and a head principal, for a total of 38 teachers and educational staff. The student-to-teacher ratio is 16:1, and the average teacher salary is $61,709 (MO DESE, 2021).

The mission of this elementary school is “At River Valley, we are molding champions of achievement and character” (River Valley Elementary School, 2021). River Valley uses the hashtag “#RiverReady” as a touchstone to help create a culture of learning excellence and as a motto when publicizing the good within their school.

River Valley Elementary serves students in kindergarten through fifth grade (River Valley Elementary School, 2022), with three to four teachers at each level. Each grade-level team participates in the professional learning community process, in which they focus on student learning by establishing essential outcomes, designing relevant assessments, comparing student work and data, and planning interventions/enrichment opportunities (River Valley Elementary School, 2022). Grade-level teams are also vertically aligned, as they meet with the teachers at a grade level above and below them to discuss ideas, share concerns, and minimize curriculum overlap (River Valley Elementary School, 2022).

Organizational Grading Practice Changes

In 2014, the North School District hired a new superintendent, and with him came additional hires who brought an influx of new ideas (Associated Press, 2014). The reevaluation of current grading practices became a priority. As such, in 2015, a new

informal district-wide committee was formed. They created the Standards-Based Assessment and Grading (SBAG) team. This group served as a think tank to provide feedback to the district and generate ideas to move new grading practices forward (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). The researcher's understanding of the organizational changes related to the noncognitive factor initiative relied on firsthand knowledge of members of the organization. This reliance was primarily due to an absence of informational cataloging. The SBAG Team's meeting minutes and supporting documentation were kept in paper format, making them challenging to acquire years later. The SBAG Team began their work by clarifying the purpose of the district's grading marks and by creating a strategic plan for the communication and rollout of their plan (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). The team agreed that grades were an essential means to communicate with students, parents, teachers, and other stakeholders. The purpose of grades was defined as "reflecting what a student knows, understands, or is capable of doing in relation to the district's essential learning standards" (see Appendix K) in each of the students' courses. This clarification of the role of grades was a drastic change in philosophy for many educators in the district, including those at River Valley Elementary School, due to the widely held belief that grades must hold students accountable and report other nonacademic behaviors that are needed for student growth (D. Bain, personal communication, January 28, 2022).

Noncognitive Factors Rubric

To clarify grading practices to meet the benchmark of only reporting the knowledge and content skills for each class, it became necessary to develop a tool that

teachers could use to report other nonacademic behaviors (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). In addition, the SBAG Team conducted research, solicited feedback from staff, and ultimately created what is known as the Grit Score Rubric (see Appendix L) (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). The name Grit Score Rubric is a misnomer as the rubric captures more than the noncognitive factor known as grit. For the sake of clarity, the researcher refers to the Grit Score Rubric as the Noncognitive Factors Rubric (see Appendix L).

The Noncognitive Factors Rubric was born from a desire to report behaviors separately from the academic grade (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). The SBAG Team began by clarifying that necessary learning skills must impact academic outcomes and support long-term success in postsecondary schooling and life (C. Sykes, personal communication, February 12, 2022). The next step was to brainstorm a long list of possible learning skills. The original noncognitive factors list contained over 20 skills but was clarified by combining, recategorizing, and reorganizing skills into new categories and subcategories (D. Bain, personal communication, January 28, 2022). Four learning skills (i.e., student engagement, responsibility, collaboration, and independent work) were identified from this process, and nine descriptions were created out from the subcategories. The learning skills became the overarching categories, while the descriptions provided distinct identifiers for targeted behaviors (C. Sykes, personal communication, February 12, 2022).

After the learning skills and descriptions were completed, the scoring range was determined. Ultimately, the team decided on a scoring range of 1-4. The aim of creating this scoring range was to simplify the scoring process and create clear-cut delineations between proficiency and nonproficiency (R. Green, personal communication, February 14, 2022). Another critical discussion was whether to set the highest point total as meeting or exceeding expectations. For example, there was concern that if they set proficiency at a score of "3," yet there was a fourth point that could still be obtained, it would lead to questions from both students and parents (R. Green, personal communication, February 14, 2022). Ultimately, the committee decided to set a score of "4" as indicating that a student scored above expectations and also decided that clear communication was necessary to ensure that all stakeholders understood the scoring range (C. Sykes, personal communication, February 12, 2022).

The committee piloted the Noncognitive Factors Rubric in a small number of elementary and secondary classrooms, mostly in classrooms taught by members of the SBAG team (D. Bain, personal communication, January 28, 2022). During the pilot, teachers would explain the learning skills in the rubric to students, describe behaviors that would lead to students successfully meeting the required learning skill level, and provide examples to help students better understand the intended behaviors (D. Bain, personal communication, January 28, 2022). The noncognitive factors rubric pilot allowed teacher feedback about the rubric and any descriptors that needed further clarification. From teacher feedback, the committee adjusted two of the descriptions to include more student-friendly language (C. Sykes, personal communication, February 12, 2022).

Ultimately, the Noncognitive Factors Rubric is a measurement tool that identifies and explains the essential nonacademic behaviors that district personnel believe are necessary for student success but which do not meet the criteria of essential content knowledge and skills (D. Bain, personal communication, January 28, 2022; R. Green, personal communication, February 14, 2022; C. Sykes, personal communication, February 12, 2022). In other words, these noncognitive factors are necessary behaviors, characteristics, or other expectations that should not be included within academic grading marks. And yet, the indicators listed on the rubric are essential behaviors for academic success (C. Sykes, personal communication, February 12, 2022). Learning skills such as student engagement, responsibility, collaboration, and independent work were identified, and each included a description and indicators that outlined the expectations for students reaching mastery of these learning skills. The rubric also provides a scoring system that allows for the evaluation of student learning skills. Students can receive a score of "1," "2," "3," or "4." This scoring system allows students to self-evaluate and teachers to provide feedback to students around their progression towards these levels (D. Bain, personal communication, January 28, 2022). The scoring system communicates the following: (1) "not on track to achieve expectations," (2) "on track to achieve expectations," (3) "has achieved expectations," and (4) "above expectations" (see Appendix L).

Noncognitive Factors Rubric Implementation

A handful of elementary schools and select middle and high school classrooms initially piloted the noncognitive factors rubric during the 2017-2018 school year (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication,

February 12, 2022). The pilot phase allowed the Noncognitive Factor Rubric to be used in a practitioner setting to collect feedback so that the committee could change the rubric if needed (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022). The goal was to eventually roll out the rubric in all classrooms from kindergarten through 12th grade. However, the COVID-19 pandemic paused the full rubric rollout, as educators had to adjust quickly to the ever-changing world of virtual and hybrid instruction (D. Bain, personal communication, January 28, 2022; C. Sykes, personal communication, February 12, 2022).

River Valley Elementary School was at the forefront of the Noncognitive Factors Rubric pilot beginning in the 2017-2018 school year. The rubric pilot occurred in one class per grade level (K-5) during the first semester of that school year (D. Bain, personal communication, January 28, 2022). During the second semester, the rubric was phased up into all classrooms as teachers were trained how to score the rubric, and professional learning community (PLC) teams began meeting to discuss plans for implementation in their classrooms (D. Bain, personal communication, January 28, 2022). A PLC team is an organized group of educators who have a common goal of improving student learning through the analysis of data to make informed decisions about instructional practices (DuFour, 2004).

River Valley Noncognitive Factors Intervention Programming

River Valley places great emphasis on noncognitive factors as critical components of their whole-child educational process. Over 50% of their student-of-the-month nominations focus on students who have exemplified excellent noncognitive factors or what they refer to as “grit” (D. Bain, personal communication, January 28, 2022)

During the 2018-2019 school year, River Valley began reporting noncognitive factors scores on its quarterly report cards (D. Bain, personal communication, January 28, 2022). This change allowed them to standardize the assessment of noncognitive factors to occur near the end of each quarter to allow for the timeliest reporting (D. Bain, personal communication, January 28, 2022). Reporting noncognitive factors on report cards created the necessity of training both parents and students on what noncognitive factors are, how they impact learning, how they are described, and the meaning of the scoring system (D. Bain, personal communication, January 28, 2022). This communication has helped stakeholders understand the purpose of scoring noncognitive factors and how these scores help tell more of the overall story of student academic achievement (D. Baine, personal communication, January 28, 2022).

Student Demographics

At the time of this study, River Valley Elementary School had a student population of 497 students in grades K-5 (MO DESE, 2021). Student racial demographics from the Missouri Department of Elementary and Secondary Education (MO DESE, 2021) can be found in Table 2.

Table 2

River Valley Elementary School Student Demographics by Race

Categories	*% Total*	*# Total*
Total Student Enrollment	100%	497
Black	1.41%	7
Hispanic	3.62%	18
Multi-Race	5.83%	29
Pacific Islander	2.01%	10

Categories	*% Total*	*# Total*
White	87.13%	433

River Valley Elementary School is somewhat ethnically homogenous, with 87.13% of the student population classified as White (MO DESE, 2021). Students of color make up less than 13% of the total student enrollment. This is true despite the fact that the demographics have begun to shift in recent years, with the student population slowly becoming more ethnically diverse. Although the total student enrollment decreased from 2018 to 2021, the number of students classified as Pacific Islander, multi-race, and Hispanic has increased as a percentage of the total population (MO DESE, 2018, 2021).

Other demographic information is essential to note as it helps to describe the student population at River Valley Elementary School. For example, information related to attendance, mobility rates, special education rates, English language learner (ELL) rates, and the percentage of students who qualify for free and reduced lunches (MO DESE 2017, 2018, 2019, 2021) are displayed in Table 3.

Table 3

River Valley Elementary School Student Population Data

Categories	% Total
Attendance Rate[a]	91.90%
Mobility Rate[b]	17.00%
Special Education Students[b]	19.35%
ELL Students[b]	2.62%
Qualifying for Free or Reduced Meals[b]	46.90%

Note. Data was compiled from the Missouri Department of Elementary and Education website.

[a]Information compiled from the mean of 2017, 2018, and 2019 school years data (pre-COVID). [b]Information collected from the 2021 school year.

Staff Demographics

River Valley Elementary School has a certified staff of 35 teachers, of which 59% have earned a master's degree or higher (MO DESE, 2021). River Valley's teachers average 15.8 years of experience and earn an average salary of $61,585 (MO DESE, 2021). The student-to-teacher ratio is 16:1, and 100% of the teaching staff has earned regular (nonprovisional) certifications (MO DESE, 2021).

Organizational Analysis

Using Bolman and Deal's (2017) structural framework, River Valley Elementary School is organized into six grade levels, the special education department, and special certified staff. Each grade level is under the quasi-leadership of a teacher who serves as a grade-level leader. The grade-level leader represents the teachers as a professional learning community lead and represents their interests by communicating directly with the administrative team. There are three special teachers, of art, physical education, and music. River Valley also employs one guidance counselor, two Title I interventionists, four special education teachers, one library media specialist, and one English language learner (ELL) teacher. According to Bolman and Deal (2017), organizations that coordinate and communicate the proper expectations about individual roles, responsibilities, and relationships are more likely to reach peak organizational

performance. Analyzing River Valley Elementary through this structural frame (Bolman & Deal, 2017) shows that the organizational roles are clearly defined, and individuals understand their specific job functions.

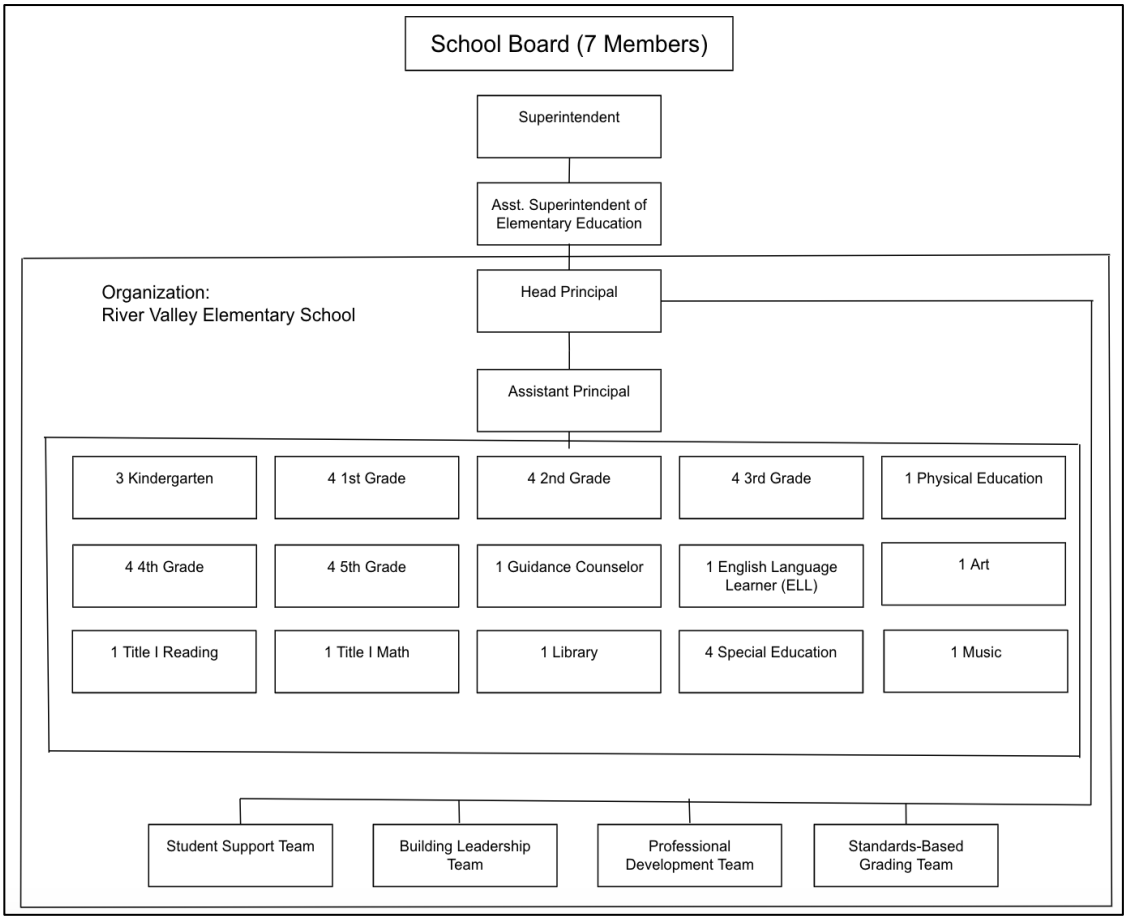
The administrative team includes a principal and assistant principal who oversee the school's daily operations. They are responsible for setting the vision and expectations for the entire school. They communicate directly with individual teachers and teams to ensure that the organization strives to reach the established goals (North School District, 2015). The administrative team reports to the assistant superintendent of elementary education. This individual oversees all elementary schools within the North School District and sets district-wide goals and strategies (North School District, 2015). Bolman and Deal (2017) argue that strategies should be specific enough to communicate direction yet flexible enough to adapt to changing circumstances. The assistant superintendent communicates desired outcomes to each elementary school principal yet provides them with the flexibility to implement programming at their schools based on the needs of their school community (North School District, 2015).

The assistant superintendent reports directly to the superintendent. The superintendent is responsible for overseeing the district's operations and sets the mission and vision of the district (North School District, 2015). An elected school board of seven members chosen by the voters in the community oversees the superintendent. The school board's primary responsibilities are setting the board of education's policies and hiring and evaluating the superintendent (North School District, 2015). Each of these

individuals plays a vital role in the operations of River Valley Elementary School. The organizational structure of River Valley Elementary School is presented in Figure 1.

Figure 1

River Valley Elementary School Organizational Structure



Note. The principal and assistant principal oversee all certified staff members. The specialized teams report directly to the principal.

Leadership Analysis

Many teams serve as leadership groups within the school organization. These include the Building Leadership Team, Professional Development Team, Standards-Based Grading Team, and Student Support Team. Levi (2017) states that organizations form teams to solve unique problems. River Valley's teams are focused on particular

aspects that they are attempting to solve organizationally. The Leadership Team works to ensure student success by finding areas of growth and planning as well as implementing changes to achieve desired results. This team is comprised of the principal, assistant principal, counselor, reading interventionist, and one teacher from each grade, K-5. The Professional Development Team creates a plan that focuses on areas of teacher growth and facilitates professional learning opportunities for certified and classified staff. This team is comprised of two teachers, the principal, and the assistant principal. In addition, the Student Support Team develops strategies to help struggling students succeed. This team is comprised of a wide variety of teachers and staff with varying roles. This team is comprised of the principal, assistant principal, counselor, reading interventionalist, math interventionalist, speech-language pathologist, four special education teachers, which include a diagnostician and occupational therapist. The building-level Standards-Based Grading Team is responsible for planning the school's transition to standards-based grading and oversees the noncognitive factors interventions. This team is comprised of the principal, the assistant principal, and three teachers. Levi (2017) argues that teams must be composed of individuals with the right mix of skills, knowledge, and abilities, but they must also be able to work together to produce results. Each of these teams plays a vital role in the leadership of the school.

Implications for Research in the Practitioner Setting

The implications for this research study in the practitioner setting are substantial. River Valley has prioritized growing noncognitive factors in its school. Like any program implementation, their organization will benefit significantly from evaluating its current practices. Having an external researcher conduct a study and present them with findings

will allow them to better see what is working and what is not, but it has also allowed teachers and staff to self-evaluate their practices within their classrooms. This research study tested the Noncognitive Factors Rubric's impact on growing student noncognitive factors over time. The findings identified the impact on student academic mindsets and perseverance and identified best practices in student self-evaluation and teacher feedback surrounding noncognitive factors. This study sought to determine whether the Noncognitive Factors Rubric is a valuable tool for guiding the growth of student noncognitive factors. This results of this research has impacted the organization and will continue to guide by providing it with aspects to improve the noncognitive factors rubric interventions and by identifying best practices for helping students grow their noncognitive factors.

Implications for Scholarship

One implication for scholarship is adding to the knowledge base surrounding classroom-level interventions that can be used to grow student noncognitive factors. In addition, this study sought to garner feedback around using a noncognitive factors rubric to guide student self-evaluation and teacher feedback around the identified noncognitive factors. This study also endeavored to identify best practices for growing noncognitive factors within the regular elementary classroom. Finally, the findings will help promote the value of noncognitive factors growth in elementary school students and provide practitioners with best practices for using a noncognitive factors rubric coupled with student self-evaluation and teacher feedback.

Summary

Over the past few decades, there has been a resurgence in scholarship surrounding noncognitive factors and their role in student achievement and long-term success. Research has pointed to the success of noncognitive factors interventions in the elementary and secondary school settings, but most interventions have focused on one noncognitive factor and have occurred outside of the regular classroom setting. In contrast, this study sought to test the impact of noncognitive factors interventions as an aspect of regular elementary classroom instruction. Using a noncognitive factors rubric to guide student self-evaluation and teacher feedback, this study sought to discover the perceptions of classroom teachers and peripheral staff members concerning the impact of these interventions on student noncognitive factors growth over time.

River Valley Elementary School, the educational organization chosen for this study, has been described in detail. A brief history of the organization, student demographics, staff demographics, and an organizational structural analysis (Bolman & Deal, 2017) have been provided. River Valley Elementary School focuses its educational programming on growing noncognitive factors as an aspect of whole-child development. Because of this intense focus, there was a need to evaluate their programming related to noncognitive factors interventions. This study sought to find the perceived impact of the Noncognitive Factors Rubric in guiding teachers and staff in supporting elementary student noncognitive factors growth.

SECTION THREE

Scholarly Review

Noncognitive factors are described as "patterns of thoughts, feelings, or behaviors" (Borghans et al., 2008, p. 974) and are an overarching term for a wide range of attributes related to one's personality, work ethic, interpersonal relationships, mindset, and determination (Dee & West, 2011; Duckworth & Yeager, 2015; Egalite et al., 2016; Farrington et al., 2012; Gutman & Schoon, 2013). They are considered critical intrapersonal aspects that are necessary for success in school, career, and life (Borghans et al., 2008; Bowles et al., 2001; Conley, 2007; Credé & Kuncel, 2008; Duckworth et al., 2007; Garcia, 2014; Geiser & Santelices, 2007; Gutman & Schoon, 2013; Heckman et al., 2006; Lleras, 2008; Nagaoka et al., 2013, 2015; Savitz-Romer & Rowan-Kenyon, 2020; Sparkman et al., 2012; West, 2016). Elementary schools in the United States are tasked with simultaneously growing noncognitive factors while providing students with a general education that prepares them for college and career readiness (Farrington et al., 2012).

Many educational scholars and practitioners understand the value of noncognitive factors. However, there is insufficient understanding of the best practices for growing individual student noncognitive factors in the regular elementary school classroom. This lack of understanding results in less emphasis on growing these skills, which leads to lower levels of academic achievement (Farrington et al., 2012).

This qualitative study was designed to address the gap in research surrounding classroom-ready strategies for growing multiple noncognitive factors in elementary school students as part of regular classroom instruction. This study evaluated the use of

student self-assessment, teacher feedback, and the Noncognitive Factors Rubric's impact on noncognitive factors growth over time. In addition, this study tested the effect of these variables on student noncognitive factors in relation to academic mindsets and perseverance. The following literature review begins with an overview of noncognitive factors, followed by detailed information about the theoretical framework and research surrounding the intervention variables.

Noncognitive Factors

Noncognitive factors are known by a variety of names, including noncognitive skills, nonacademic skills, soft skills, social-emotional skills, 21st-century competencies, interpersonal and intrapersonal skills, personality traits, and other terms (Duckworth & Yeager, 2015; Egalite et al., 2016; Farrington et al., 2012, 2013; Garcia, 2014; West, 2016). However, referring to these factors as "noncognitive" is a misnomer, as each skill requires a certain level of cognition (Borghans et al., 2008; Duckworth & Yeager, 2015; West et al., 2016). Messick (1979) shared that the term "noncognitive" was developed to describe anything other than cognitive traits that can be explained by intellectual abilities or subject matter achievement. Farrington et al. (2012) created the term "noncognitive factors" to broaden the term beyond skills and to communicate that strategies, attitudes, and behaviors fall under the noncognitive umbrella. The idea that these factors are best described as "noncognitive" has remained because they are not measured on standardized tests (Farrington et al., 2013).

Although there is much disagreement about the appropriateness of the name used to describe them, there is a strong consensus that noncognitive factors are essential for both immediate and future individual success and are worthy of more focus in schools.

Much of this research identifies the long-term, positive, predictive ability of noncognitive factors on success in college (Akos & Kretchmar, 2016; Broghammer, 2017; Conley, 2007; Credé & Kuncel, 2008; Lleras, 2008; Nagaoka et al., 2013), the workforce (Borghans et al., 2008; Bowles et al., 2001; Bowles & Gintis, 2002; Casner-Lotto et al., 2006; Heckman et al., 2006), and in adulthood (Garcia, 2014; Heckman & Kautz, 2013; Merchant et al., 2018; Nagaoka et al., 2015).

More recently, educational scholars have begun to turn their attention to the impact of noncognitive factors on Pre-K through 12th-grade education. School success can result from many factors: attendance, homework completion, effort, attitude, intelligence, relationships, and others. However, the best predictor of school achievement, graduation, college performance, and life-long success is not standardized test outcomes or cognitive ability but course or class marks, grade point averages (GPAs), and class ranks (Allensworth & Easton, 2005, 2007; Camara & Echternacht, 2000; Geiser & Santelices, 2007; Hauser & Palloni, 2011; Hoffman, 2002; Hoffman & Lowitzki, 2005; Moffat, 1993; Munro, 1981; Tross et al., 2000; Zheng et al., 2002).

Class marks and GPAs are determined by a student's success rate in their courses and often communicate a strong message about their behaviors beyond their cognitive abilities. Success in coursework requires and depends on numerous noncognitive factors (Allensworth & Easton, 2005, 2007; Blackwell et al., 2007) that are integral parts of what makes an individual successful both in school and beyond. The promise of noncognitive factors rests in their ability to be grown with deliberate practices and the idea that they can positively impact student achievement.

A wide range of skills and attributes can be considered noncognitive factors. They include critical thinking skills, problem-solving skills, emotional health, social skills, work ethic, community responsibility, self-control, self-regulation, persistence, confidence, teamwork, organizational skills, creativity, communication skills, academic mindsets, grit, citizenship, personal development, character, attitude, participation, independence, initiative, communication, independence, collaboration, emotional intelligence, resilience, motivation, locus of control, self-efficacy, metacognition, self-determination, and others (Farrington et al., 2012). Siler (2016) argued that the list of skills often labeled as noncognitive can be broad and considerably ill-defined. This doctoral study focused on several noncognitive factors learning skills, including student engagement, responsibility, collaboration, and independent work. The Noncognitive Factors Rubric describes these skills in detail. The study also evaluated the perceived impact that growing noncognitive factors has on the noncognitive factor categories of academic mindsets and academic perseverance.

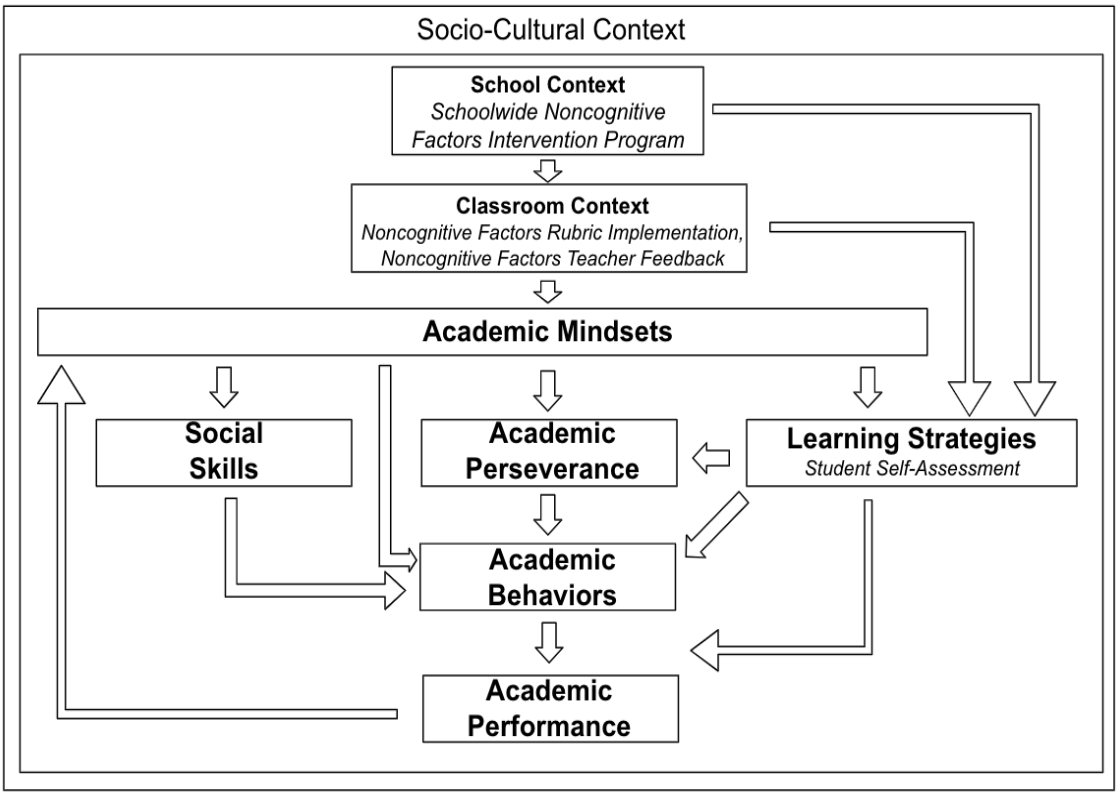
Five Categories of Noncognitive Factors Model

Farrington et al.'s (2012) five categories of noncognitive factors model is the theoretical framework that supports this study's analysis of systematic noncognitive factors interventions (accomplished using the Noncognitive Factors Rubric) on student noncognitive factors growth in the regular elementary classroom. Farrington et al. (2012) relied upon previous research on noncognitive skills, factors, and other noncognitive behaviors to develop this model. It includes the following five categories (a) academic behaviors, (b) academic perseverance, (c) academic mindsets, (d) learning strategies, and (e) social skills (Farrington et al, 2012). Each category works independently and

reciprocally to impact student academic performance (Figure 1). The five categories have also been noted in other studies (Blazar & Kraft, 2017; Duckworth & Yeager, 2015; Paunesku et al., 2015; West et al., 2016; Yeager et al., 2016). The following sections explain in greater detail the noncognitive factors categories that frame this study.

Figure 2

Five Categories of Noncognitive Factors Model With Noncognitive Factors Interventions



Note. This figure shows the relationship between noncognitive factors and their impact on academic performance. This model has been adapted to include aspects of River Valley Elementary School's noncognitive factors intervention program. Adapted with permission from Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012, June). Teaching

adolescents to become learners: The role of noncognitive factors in shaping school performance. *Literature Review.* University of Chicago Consortium on Chicago School Research, p. 12. **https://consortium.uchicago.edu/publications/teaching-adolescents-become-learners-role-noncognitive-factors-shaping-school**

Academic Behaviors

Academic behaviors are observable behaviors that lead directly to academic performance. They are easy to monitor, describe, and measure and are associated with being a good student. They include regular attendance, arriving ready to learn, paying attention, participating in instructional activities, and completing assignments (Farrington et al., 2012). According to Farrington et al. (2012), "virtually all other noncognitive factors work through academic behaviors to impact academic performance" (p. 8). Behavior is the vehicle through which cognitive and noncognitive factors impact student academic achievement (Conard, 2006) and students' ultimate success in academic endeavors. Generally speaking, human behavior is malleable, and it is almost always possible for an individual's behavior to change; this includes academic behaviors (Ryan & Deci, 2000; Skinner, 1953; Snipes & Tran, 2017; Staats & Staats, 1963).

Academic behavior is closely related to student nonacademic behavior. Nonacademic behaviors that impact academic behaviors may include, but are not limited to, student absences, disciplinary referrals, and suspension rates. In their study on noncognitive factors in Boston public schools, West et al. (2016) noted that students' self-ratings of conscientiousness, self-control, grit, and growth mindset were negatively correlated with suspensions and absences. These findings showed that students who rated themselves in the lowest quartile averaged nearly three additional absences per semester

and were suspended from school four times the number of days as their peers (West et al., 2016).

Academic behaviors are the manifestation of nearly all other noncognitive factors (Farrington et al., 2012), all of which impact academic achievement. What is most notable is that academic achievement has a reciprocal effect on academic mindsets, learning strategies, social skills, academic perseverance, and in turn, on academic behaviors (Farrington et al., 2012). This relationship means that it is probable that students who are successful academically will be more likely to succeed in other noncognitive factors areas. This reciprocal relationship can be strengthened through classroom or school-wide interventions that focus on targeted noncognitive factors to impact overall student achievement (Allensworth & Easton, 2007; Blackwell et al., 2007; Blazar & Kraft, 2016; Durlak et al., 2011; Dweck, 1986, 2015; Dweck et al., 2014; Garcia, 2014; Gutman & Schoon, 2013; Hattie et al., 1996; Jackson, 2016; Nagaoka et al., 2015; Paunesku et al., 2015; Snipes & Tran, 2017; Willingham, 2016; Yeager & Dweck, 2020; Yeager et al., 2016, 2019; Yeager & Walton, 2011).

Academic Perseverance

Academic perseverance consists of a student's tendency to complete schoolwork on time despite outside distractions, obstacles, or difficulties (Farrington et al., 2012). This construct is composed of two related concepts: grit and self-control. Duckworth et al. (2007) define grit as "perseverance and passion for long-term goals" (p. 1087). Self-control differs from grit and is conceptualized as one's ability to focus on finishing short-term obligations by avoiding impulsive behavior (Duckworth et al., 2007). School and classroom contexts play a substantial role in impacting a student's perseverance, whether

directly or indirectly (Farrington et al., 2012). However, the effect of the classroom context on perseverance indirectly influences other aspects, which ultimately affect a student's perseverance (Farrington et al., 2012). In other words, a student may persevere differently based upon the classroom, teacher, or situation in which they are tasked with persevering. The use of classroom interventions and the creation of classroom contexts that focus on developing positive academic mindsets have a strong likelihood of fostering students' ability to participate and continue persevering through challenging tasks (Dweck et al., 2014).

In a qualitative study on perseverance, DiNapoli (2018) found that when ninth-grade math students were provided targeted scaffolding and utilized conceptualization strategies, they were more likely to persevere when they faced what seemed to be a problematic impasse during challenging math problem-solving. Additionally, DiNapoli (2018) discovered that both conceptualization and scaffolding strategies helped students more readily engage in deliberate practices instead of simply solving problems to complete the task. Similar to the examples of conceptualization and scaffolding strategies listed above, Bray (2014) stated that teachers should provide students with strategies and tactics that help them work through challenging tasks. Examples of this could include rereading, diagramming, listing known facts, collaborating with a peer, and breaking problems into smaller tasks.

Learning Strategies

Learning strategies are processes and tactics utilized by students to help them to learn (Farrington et al., 2012) and to enhance their academic behaviors. These strategies include mnemonic devices, self-monitoring strategies, metacognition, self-correction

strategies, goal setting, and time management (Credé & Kuncel, 2008; Flavell, 1979; Zimmerman & Moylan, 2009; Zimmerman & Schunk, 1989).

Metacognition and Self-Regulated Learning

Metacognition is defined as understanding one's knowledge, controlling one's cognition, or understanding the methods to assess one's understanding (Credé & Kuncel, 2008; Flavell, 1979; Hacker et al., 2009). Self-regulated learning is the intentional use of metacognitive strategies to achieve positive learning outcomes (Zimmerman & Schunk, 1989). According to Zimmerman (2002), students self-regulate their learning through intentional cognition and by selecting strategies they believe are conducive to learning outcomes. Winne and Hadwin (1998) describe four phases of self-regulated learning:

1. Identifying the learning task that one is encountering.
2. Setting goals and developing plans to reach those goals.
3. Enacting strategies and engaging in the ongoing monitoring of effectiveness.
4. Evaluating the approach and reconfiguring strategies for similar future tasks.

Zimmerman (2002) added that the fourth phase happens only on occasion. Winne et al. (2002) clarified that the four phases are conceptually unique, and they can occur in any order.

Goal Setting

As a broad definition, goal setting is the process of creating understandable and achievable learning targets. Goal theory suggests that students utilize two types of goal orientations: a task-focused orientation, in which learners are motivated by the intrinsic rewards of learning and growth, and an ability-focused orientation that prioritizes extrinsic rewards. A task-focused orientation often leads to learning or mastery goals,

while an ability-focused orientation leads to ego or performance goals (Dweck, 1986; Dweck & Leggett, 1988; Elliott & Dweck, 1988), those concentrating on outperforming their peers.

Students who develop mastery goals are motivated for learning's sake. They have a strong interest in developing new skills, attempt to understand the work that they are producing, have a focus on mastery, and create a connection between their effort and achievement (Ames & Archer, 1988; Duda & Nicholls, 1992; Nicholls et al., 1985; Weiner, 1979). Meanwhile, students who set performance goals are motivated by finishing tasks and doing better than others, and they can often suffer from performance-avoidance issues to mask perceived deficiencies in their ability or self-worth (Covington, 1984; Covington & Beery, 1976; Covington & Omelich, 1984; Dweck, 1986; Nicholls, 1984).

In a study of 1,273 high school students in Spanish language classes, Moeller et al. (2011) found a statistically significant relationship between goal setting and academic performance over time. However, other factors likely contributed to the participants' academic success.

Social Skills

Social skills are interpersonal qualities, such as cooperation, assertion, responsibility, and empathy, that improve student-peer interactions as well as interactions between students and their teachers (Farrington et al., 2012). Social skills are essential to future employers because they are often markers of good workers; however, their impact on academic performance is tenuous and correlational at best (Casner-Lotto et al., 2006; Durlak et al., 2011; Farrington et al., 2012; Malecki & Elliott, 2002; Murnane & Levy,

1996; Wentzel, 1991, 1993). Farrington et al. (2012) describe social skills as being intertwined with academic mindsets and behaviors, thus making it challenging to distinguish social skills from other noncognitive factors.

Academic Mindsets

Academic mindsets are "beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that supports academic performance" (Farrington et al., 2012, p. 28). Decades of solid research supports the current understanding of academic mindsets. According to Farrington et al. (2012), this research includes goal theory (Dweck, 1986; Dweck & Leggett, 1988), social learning theory (Bandura, 1977; Rotter, 1954), attribution theory (Weiner, 1979), expectancy-value theory (Eccles et al., 1983), self-efficacy (Bandura & National Institute of Mental Health, 1986), locus of control (Rotter, 1954), and stereotype threat (Steele, 1997; Steele & Aronson, 1995). In addition, Farrington et al. (2012) have organized academic mindsets into four domains expressed in the first-person view of students: (a) "I belong to this academic community," (b) "my ability and competence grow with my effort," (c) "I can succeed at this," and (d) "this work has value for me" (p. 28).

Growth Versus Fixed Mindsets

Dweck's (2017) implicit theories of intelligence identified two competing mindsets regarding an individual's intelligence beliefs: entity theory or fixed mindset and incremental theory or growth mindset. Individuals who subscribe to entity theory believe that they are born with a certain amount of intelligence and that intelligence cannot be grown. Meanwhile, those who practice the incremental theory understand that they can develop their intelligence with persistence, strategies, feedback, and effort (Dweck,

2017). Even when students show equal intellectual ability, their mindset impacts their cognition related to challenging academic situations (Blackwell et al., 2007). Dweck (2017) further asserted that individuals likely possess a mix of fixed and growth mindsets and must cultivate the latter.

Academic Mindsets and Motivation

Academic mindsets are closely related to intrinsic motivation, and they occur internally through social-cognitive processes (Dweck, 1986). For example, Dweck (1986) shared that motivation occurs internally through social-cognitive processes. These processes likely influence decision-making more than do most extrinsic variables and include adaptive and maladaptive motivational practices. According to Dweck (1986), adaptive practices are patterns that promote the development of challenging and personally rewarding achievement goals, while maladaptive patterns may fail to establish or maintain rigorous academic and life goals.

Academic Mindsets and Perseverance

Academic mindsets are closely related to academic perseverance. Farrington et al. (2012) maintain that academic mindsets work to either positively or negatively impact a student's academic perseverance. Similarly, Blackwell et al. (2007) found that students with a growth mindset have a stronger propensity towards having positive beliefs, are more likely to establish learning goals, and are more likely to try various positive learning strategies.

One social-cognitive factor that inhibits a student's ability to persevere is stereotype threat (Steele & Aronson, 1995). Stereotype threat is a subconscious mindset related to perceptions about one's academic ability based on factors outside one's control,

such as race, gender, or socioeconomic condition. Students can overcome stereotype threat through the use of academic mindset interventions. For example, Good et al.'s (2003) study tested reducing stereotype threat through mindset intervention, with seventh-grade, low-income, female, African American students receiving treatment. As demonstrated by increased mathematics test scores, students who received positive academic mindset mentorship were more likely to persevere in difficult academic situations (Goode et al., 2003). These results lend credence to the benefits of positive academic mindsets and their impact on academic perseverance, academic behaviors, and ultimately, academic achievement.

Academic Mindset Interventions

Research supports the use of academic mindset interventions due to their success. Blackwell et al. (2007) conducted a study where seventh-grade students received an eight-week intervention that taught them that the brain could be developed like a muscle. The experimental group saw an increase in the participants' growth mindsets, while the participants in the control group saw little change.

More recently, Paunesku et al. (2015) tested the feasibility of large-scale academic mindset and sense of purpose interventions. Participants engaged in online modules designed to bolster their academic mindsets. The results showed that students at risk of dropping out of school saw an increase in semester grade point averages for core academic areas (Paunesku et al., 2015).

Yeager et al. (2016) built upon Paunesku et al.'s (2015) study by attempting to improve these comprehensive mindset interventions by employing a user-centered "design thinking" process in which students provided input into the intervention's design.

The study had high participation rates (> 95% of enrolled students) from the 10 high schools that participated. The results showed that scaling-up mindset interventions to a whole-school level could be achieved with success, and implementation can occur with little staff training. Bifulco (2017) conducted a related study that found similar results; however, it recommended a blended delivery approach that included aspects of a predesigned implementation with classroom teacher support.

These studies show that successful mindset interventions can increase students' positive academic mindsets, directly affecting their academic perseverance and academic achievement. However, these studies occurred outside of regular classroom contexts and without the practitioner knowledge and relationships that are typically found within those settings.

Promising Instructional Practices in Noncognitive Factors Growth

Student Self-Assessment

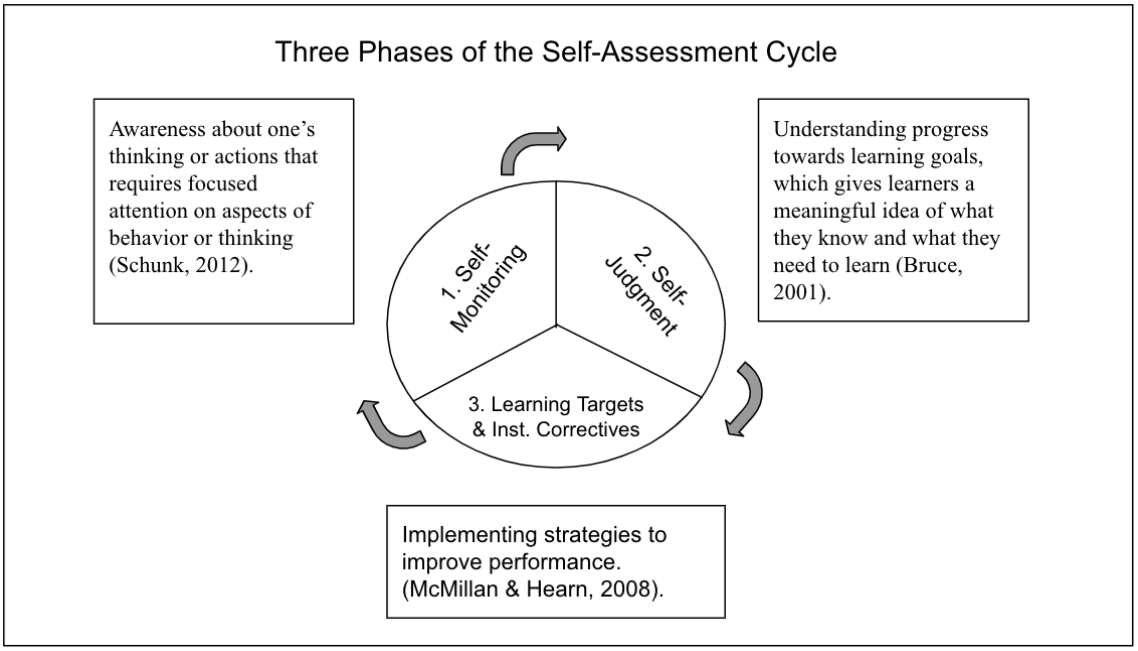
Self-assessment is a process in which students monitor their thinking and learning behaviors and identify strategies to improve their understanding and skills (McMillan & Hearn, 2008). Essentially, self-assessment practices allow students to judge their work to find discrepancies between their current performance and their desired outcomes. Farrington et al. (2012) categorized self-assessment as a learning strategy because it is a tactic students can use to enhance their learning.

Self-assessment requires deep metacognition for students to understand where they are in the learning process and what changes they need to make to improve their understanding (Flavell, 1979; Hacker et al., 2009; Zimmerman & Schunk, 1989). Self-assessment is a formative assessment strategy (Black & Wiliam, 1998; Fluckiger et al.,

2010; Sadler, 1998; Stiggins, 2008) that uses a goal-oriented process to allow learners to compare their progress to clear external benchmarks (McMillan & Hearn, 2008). Such self-assessments connect strongly to goal theory (Dweck, 1986), are an aspect of self-efficacy (Bandura, 1994), and often result in a mastery goals orientation (Ames & Archer, 1988; Duda & Nicholls, 1992; Nicholls et al., 1985; Wiener, 1979). The self-assessment cycle occurs in three phases, as shown in Figure 3.

Figure 3

Three Phases of the Self-Assessment Cycle



Note. This figure was created to show the cyclical three phases of student self-assessment.

Self-assessment should occur during the learning process to provide feedback and enhance student motivation during instruction. Obtaining feedback during the learning process leads to more substantial achievement, increased student motivation and persistence, and positive mindsets towards learning (Black & Wiliam, 1998; Rolheiser &

Ross, 2001). Therefore, research suggests that students can utilize self-assessment as a strategy to grow specific noncognitive factors over time.

Teacher Feedback

Feedback is "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie & Timperley, 2007, p. 81). One of the critical aspects of learner growth in the formative assessment process is the quality of feedback received by the student (Black & Wiliam, 1998; Hattie & Timperley, 2007; Shepard, 2000). According to Chappuis (2012), quality feedback should be descriptive, focused on the intended learning outcomes, targeting strengths and areas of improvement, timely, specific, delivered in student-friendly language, and should provide suggestions for improvement.

Sadler (1998) argued that teachers serve as mediators between a body of knowledge or skills and the learner. According to Chappuis (2009), teachers must establish three conditions before feedback can occur: (a) provide students with the targeted learning outcome; (b) design instruction to be situated within the learning objective; and (c) design assignments and assessments in a way that offers students a clear understanding of their intended learning results. Hattie and Timperley (2007) argue that teachers should strive for immediate delivery for feedback to be most effective.

Most of the literature on feedback focuses on its academic or cognitive aspects and their impact on learning, with learning behaviors taking on a secondary role. In addition, research suggests that educators can use feedback to help students grow specific noncognitive factors, especially when those factors are identified clearly and

communicated to students (Chappuis, 2009; Farrington et al., 2012; Hattie & Timperley, 2007; Stiggins & Chappuis, 2005).

Rubrics

A rubric is a "set of written guidelines for distinguishing between performances or products of different quality" (Wiggins, 2013, p. 1). Rubrics support learning by providing clearly defined criteria, outcomes, and standards (Phillip, 2002), and they specify critical elements and distinguish between quality and less than optimal work (Wiggins, 1998). A quality rubric lists descriptors and indicators for each level of performance (Wiggins, 2013). Rubrics allow learners to see clearly defined standards and examples for each level of performance. Teachers should create rubrics before the performance task occurs (Phillip, 2002) to incorporate the best practice of backward instructional design, meaning that goals are selected before instructional methods are chosen (Wiggins & McTighe, 1998).

Educators can use rubrics for performance tasks beyond subject area content. For example, Wiggins (2013) stated that rubrics can communicate indicators of achievement related to behaviors and techniques. Identifying and growing targeted noncognitive factors through clearly defined rubrics was a logical next step in noncognitive factors research. Thus, this study evaluated the perceived impact that systematic noncognitive factors interventions, using a noncognitive factors rubric, have on the growth of student noncognitive factors in the regular elementary school classroom.

Noncognitive Factors Rubric

The Noncognitive Factors Rubric (see Appendix L) is an evaluative tool used by River Valley Elementary School to help students grow their noncognitive factors. The

rubric is organized into three sections: learning skills, descriptions of learning skills, and the scoring section. The learning skills section of the rubric identifies four specific learning skills: (a) student engagement, (b) responsibility, (c) collaboration, and (d) independent work. Each learning skill has one or more descriptors that provide more detail about what each of these learning skills looks like in practice. Each of the Noncognitive Factors Rubric descriptions connects explicitly to Farrington et al.'s (2012) five categories of noncognitive factors framework.

Learning Skills Descriptors. The Noncognitive Factors Rubric descriptions of learning skills are as follows: "I am an active participant in class, I listen and speak appropriately, I follow class rules and do not distract others from learning, I recognize areas of growth and improvement in my learning and development as a student" (Appendix L). Active participation, following class rules, and limiting distractions are all examples of behaviors that fall within the "academic behaviors" category, as they are behaviors that impact academic performance (Farrington et al., 2012). Listening and speaking appropriately connect strongly to the "social skills" category because they describe interactions between students and students or students and teachers within a classroom setting (Farrington et al., 2012). Recognizing areas of growth and improvement connects strongly to the self-regulation aspects of the "learning strategies" category, as students can regulate their learning through metacognition, self-evaluation, and goal setting (Farrington et al., 2012).

Responsibility Descriptor. The rubric learning skill of "responsibility" has the following description: "I complete and submit classwork, homework, and assignments according to timelines" (Appendix L). These behaviors fall within the "academic

behaviors" category because they are the manifestation of other noncognitive factors and behaviors that ultimately impact academic behaviors that lead to learning outcomes (Farrington et al., 2012).

Collaboration Descriptors. The rubric learning skill of "collaboration" has the following descriptions: "I respond positively to ideas, opinions, and values of others, and I work equitably in group settings" (Appendix L). These descriptors are aspects of the "social skills" category of noncognitive factors because they describe behaviors students employ to successfully interact with others within the classroom learning setting (Farrington et al., 2012).

Independent Work Descriptors. The rubric learning skill of "independent work" has the following descriptions: "I use work time effectively and follow instructions, and I manage workload effectively" (Appendix L). These descriptors connect strongly to the "academic behaviors" category because they are the manifestation of other noncognitive behaviors that can produce good academic behaviors and eventually impact academic performance (Farrington et al., 2012).

Summary

Noncognitive factors are a significant aspect of student success. There has been increasing interest in focusing more on noncognitive factors development to prepare students for successful, productive lives. The literature points to noncognitive factors as noteworthy for individual success and academic achievement and for being able to be grown with specific interventions. Nevertheless, the literature did not show a clear path for utilizing systematic noncognitive factors interventions or using a noncognitive factors rubric to grow student noncognitive factors in the regular elementary school classroom

over time. The use of rubrics, student self-assessment, and quality teacher feedback have shown promise as strategies for student academic growth. However, the literature on noncognitive factors does not make strong claims about these strategies and their impact on student noncognitive factors growth in the regular elementary school classroom. The five noncognitive factors framework created by Farrington et al. (2012) provided a theoretical path for understanding the impact of noncognitive factors on academic achievement. This study sought to determine the impact that systematic noncognitive factor interventions, using a noncognitive factors rubric, have on the growth of student noncognitive factors in the regular elementary school classroom.

SECTION FOUR

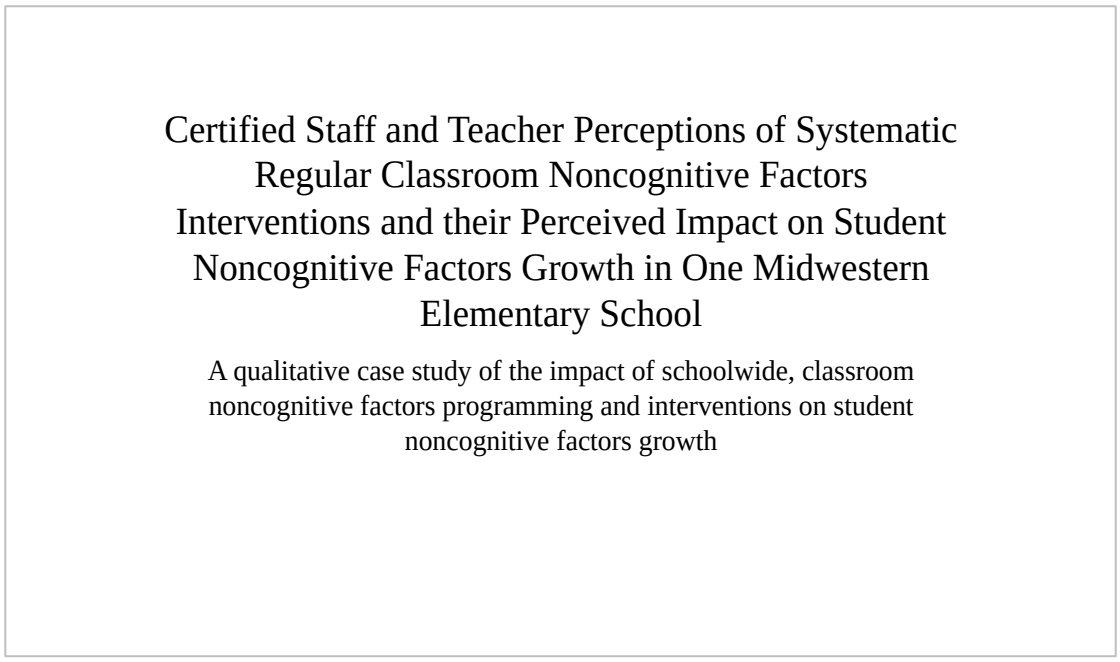
Contribution To Practice

Dissemination of Practitioner Contribution

The following presentation will be presented to the administrative and leadership team of River Valley Elementary School. This presentation will be given during May 2023, at a time agreed upon by the River Valley team. It is anticipated that this presentation will last approximately one hour. Presentation attendees will also receive a paper copy of the executive summary (see Appendix O).

The presentation will be extremely valuable for the participating organization. River Valley Elementary School has developed a program for growing student noncognitive factors in their students as an aspect of regular classroom instruction. The findings of this study will help the administrative team and teacher leadership to see the effectiveness of their noncognitive factors intervention program. The findings will also share staff perceptions of this intervention and their perceptions of best practices. These findings will allow the leadership of River Valley Elementary School to (1) make informed decisions about the strengths and opportunities for growth related to their noncognitive factors programming and (2) identify sound classroom practices for helping students to grow their noncognitive factors.

Presentation for Dissemination



Thank you for allowing me to conduct my study here at River Valley. I am excited to be here with you today. I hope to provide you with some key takeaways about what is working well and areas that you could possibly adjust to improve your school's noncognitive factors programming.

Overview of the Topic

- Over the past four decades, many educational reforms have been attempted; however, the amount of knowledge and the number of skills that students acquire have remained the same or declined compared to progress in prior generations (Center for Educational Reform, n.d.).
  - Heightened standards, higher-level coursework, more rigorous graduation requirements, and standardized testing have not increased readiness for the next grade level or provided graduates with the skills and knowledge necessary for college and career success (Farrington et al., 2012).
- Over the past decade, there has been a growing movement of educators and policymakers who have begun to focus more on skills other than rigorous curriculum, coursework, or testing.
  - Noncognitive factors are "patterns of thoughts, feelings, and behaviors" (Borghans et al., 2008, p. 974) that correlate with postsecondary success and are desired by employers (Nagaoka et al., 2013; Savitz-Romer & Rowan-Kenyon, 2020). Farrington et al. (2012) emphasize that learners' noncognitive factors work together to impact their academic behaviors, influencing academic achievement.
- River Valley Elementary currently implements a systemwide noncognitive factors intervention program designed to grow student noncognitive factors, and thereby, improve their academic achievement. This study gathered teacher and staff perceptions of this program's effectiveness and best practices for growing student noncognitive factors.

Since the 1983 publishing of the landmark report, *A Nation at Risk*, many attempts have been made to reform public education. However, almost four decades later, the amount of knowledge and skills that students acquire have remained the same or declined compared to progress in prior generations (Center for Educational Reform, n.d.). Over the decade, there has been a considerable movement that focuses on skills, behaviors, and mindsets outside of the typical curricular content. These noncognitive factors include a wide-ranging list, including critical thinking skills, attendance, work ethic, growth mindset, perseverance, community responsibility, self-control, etc. As you know, River Valley Elementary has instituted a schoolwide, noncognitive factors intervention program that works within the regular classroom to teach students how to grow their noncognitive factors using a guiding rubric and through authentic examples and discussions.

Literature Review—Importance of Noncognitive Factors on School and Lifelong Success

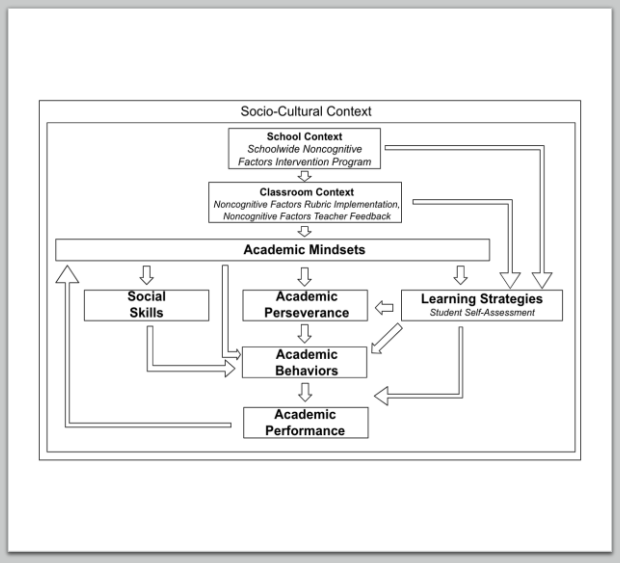
- There is a strong consensus that noncognitive factors are essential for both immediate and future individual success and are worthy of more focus in schools. Much of this research identifies the long-term positive predictive ability of noncognitive factors on success in college (Akos & Kretchmar, 2016; Broghammer, 2017; Conley, 2007; Credé & Kuncel, 2008; Lleras, 2008; Nagaoka et al., 2013), the workforce (Borghans et al., 2008; Bowles et al., 2001; Bowles & Gintis, 2002; Casner-Lotto et al., 2006; Heckman et al., 2006), and in adulthood (Garcia, 2014; Heckman & Kautz, 2013; Merchant et al., 2018; Nagaoka et al., 2015).
- School success requires and depends on a wide range of noncognitive factors (Allensworth & Easton, 2005, 2007; Blackwell et al., 2007), which are integral parts of what makes an individual successful both in school and beyond.

Numerous studies point to noncognitive factors as being crucial for success in school, in college, the workforce, and in adulthood.

Literature Review—Theoretical Framework

Five Categories of Noncognitive Factors Model

- Farrington et al.'s (2012) five categories of noncognitive factors model is the theoretical framework that supports this study.
- This model includes the following five categories:
  (1) Academic behaviors.
  (2) Academic perseverance.
  (3) Academic mindsets.
  (4) Learning strategies.
  (5) Social skills.

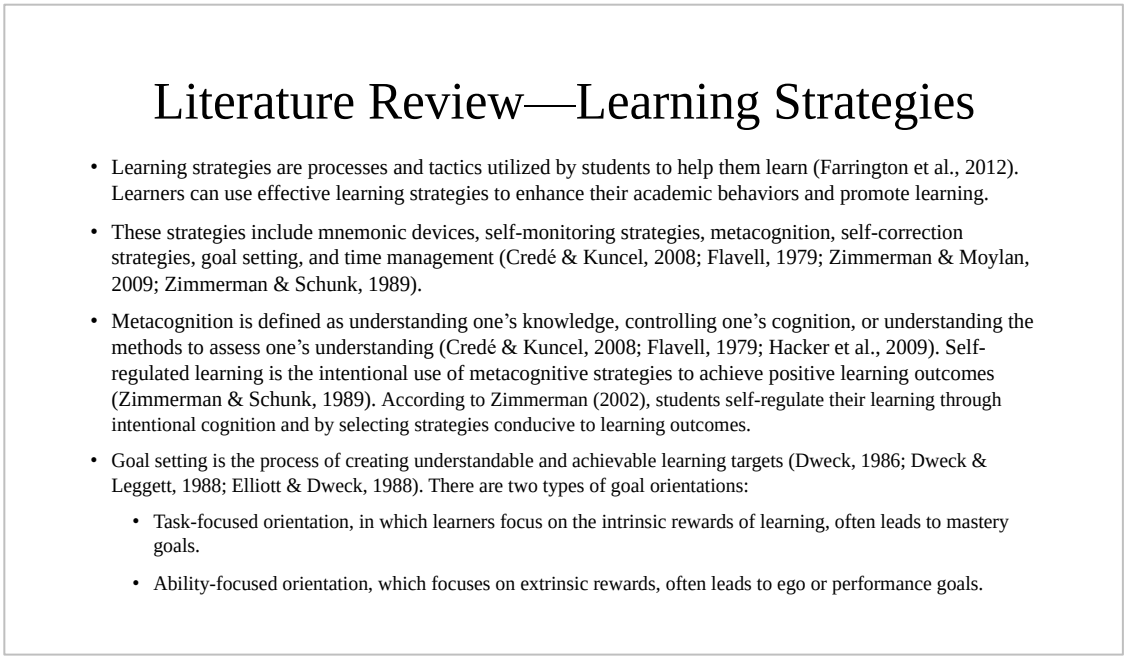


The theoretical framework for this study is Farrington et al.'s five categories of noncognitive factors model. The five categories of noncognitive factors model was theorized based on prior research on noncognitive skills and other noncognitive behaviors. This model breaks noncognitive factors into five categories; academic behaviors, learning strategies, academic perseverance, academic mindsets, and social skills. Each of these categories works independently yet reciprocally to impact academic performance. The school and classroom context also influence each of these five categories. The graphic on the right side of the screen provides a visual of how each of these categories works together to impact academic performance.

Literature Review—Academic Behaviors

- Academic behaviors are observable behaviors that lead directly to academic performance.
- Nearly all noncognitive factors work through academic behaviors to impact academic success.
- Human behavior is malleable (Ryan & Deci, 2000; Skinner, 1953; Snipes & Tran, 2017; Staats & Staats, 1963).
- Academic behaviors are the manifestation of nearly all other noncognitive factors (Farrington et al., 2012), all of which impact academic achievement. Academic achievement has a confirming effect that positively or negatively impacts mindsets, learning strategies, perseverance, social skills, and academic behaviors.

Academic behaviors are observable behaviors that lead directly to academic performance. They are easy to monitor, describe, and measure, and are associated with being a good student. According to Farrington et al. (2012), “virtually all other noncognitive factors categories work through academic behaviors to impact academic performance” (p. 8). Behavior is the vehicle through which cognitive and noncognitive factors impact student academic achievement (Conard, 2006) and students’ ultimate success in academic endeavors. They include regular attendance, arriving ready to learn, paying attention, participating in instructional activities, and completing assignments. Generally speaking, human behavior is malleable, and it is almost always possible for an individual’s behavior to change, including academic behavior (Ryan & Deci, 2000; Skinner, 1953; Snipes & Tran, 2017; Staats & Staats, 1963). Ultimately, academic achievement has a confirming, reciprocal effect on other noncognitive factors, which can further impact academic behaviors.



Learning strategies are intentional processes used by individuals to learn. Effective strategies can be used to enhance academic behaviors and promote academic achievement. There are numerous learning strategies, including, but not limited to, mnemonic devices, self-monitoring, metacognition, self-correction, goal setting, and time management. Metacognition is the practice of assessing, understanding, and controlling one's thinking. Metacognition can lead to selecting strategies that can help the student learn at higher levels. Metacognition can lead to goal setting, which is the process of creating learning targets. There are two types of goal orientations: those focused on intrinsic rewards or tasks or those focused on extrinsic or external rewards. The former orientation is viewed as the more desirable orientation, as learners are focused on learning for the sake of learning. The latter orientation often leads to the creation of ego or performance awards, where students are more interested in outcompeting their peers than mastering the subject matter.

Literature Review—Academic Perseverance

- Academic perseverance consists of a student's tendency to complete schoolwork on time, despite obstacles or difficulties (Farrington et al., 2012). This construct is composed of two related concepts: grit and self-control. Duckworth et al. (2007) define grit as "perseverance and passion for long-term goals" (p. 1087). Self-control differs from grit and is conceptualized as one's ability to focus on finishing short-term obligations by avoiding impulsive behavior (Duckworth et al., 2007).
- A student may persevere differently based upon the classroom, teacher, or situation in which they are tasked to persevere. The use of classroom interventions and the creation of classroom contexts that focus on developing positive academic mindsets have a strong likelihood of fostering students' ability to participate and continue persevering through challenging tasks (Dweck et al., 2014).

Perseverance means striving through difficult tasks and can be subdivided into two related concepts: grit and self-control. Duckworth (2007) describes grit as perseverance and passion for long-term goals. Self-control is an individual's ability to focus on finishing shorter obligations and avoiding impulsive behaviors that disrupt that focus. School and classroom contexts play a substantial role in influencing a student's perseverance. Classrooms or schools that focus on developing positive, growth mindsets, or environments that foster perseverance through interventions, are more likely to foster students' ability to persevere through challenging tasks.

Literature Review—Social Skills

- Social skills are interpersonal qualities, such as cooperation, assertion, responsibility, and empathy, that improve student-peer interactions as well as interactions between students and their teachers (Farrington et al., 2012).
- Social skills are essential to future employers because they are often markers of good workers; however, their impact on academic performance is tenuous and correlational at best (Casner-Lotto et al., 2006; Durlak et al., 2011; Farrington et al., 2012; Malecki & Elliott, 2002; Murnane & Levy, 1996; Wentzel, 1991, 1993).
- Farrington et al. (2012) describe social skills as being intertwined with academic mindsets and behaviors, thus making it challenging to distinguish social skills from other noncognitive factors.

Social skills are crucial qualities for future success in the workplace. Most employers need workers who have good interpersonal skills. However, social skills can be either beneficial or negative in relation to academic outcomes. Students who have excellent social skills and control over those skills can find greater success in academic situations. In contrast, having excellent social skills but not using them properly in the correct context can negatively impact learning outcomes. According to Farrington et al. (2012), social skills are difficult to separate from academic mindsets and behaviors. Thus, it is difficult to assess them independently from other noncognitive factors.

Literature Review—Academic Mindsets

- Academic mindsets are beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that support academic performance" (Farrington et al., 2012).
- Farrington et al. (2012) organize academic mindsets into four domains: (a) "I belong to this academic community," (b) "my ability and competence grow with my effort," (c) "I can succeed at this," and (d) "this work has value for me" (p. 28).
- Dweck's (2017) implicit theories of intelligence posits two mindsets: fixed vs. growth.
- Academic mindsets are closely related to intrinsic motivation, and they occur internally through social-cognitive processes (Dweck, 1986). For example, Dweck states that motivation occurs internally through social-cognitive processes.
- Academic mindsets are closely related to academic perseverance.
  - Academic mindsets impact academic perseverance.
  - A growth mindset lends itself to establishing goals and trying various learning strategies.
- Mindset interventions can improve academic mindsets (Bifulco, 2017; Blackwell et al., 2007; Paunesku et al., 2015; Yeager et al., 2016). However, these studies occurred outside of the regular classroom.

Academic mindsets describe how a student perceives their ability to learn and greatly impact academic performance (Farrington et al., 2012), it. Farrington et al. (2012) organized academic mindsets into four domains that impact academic success, expressed in the first-person viewpoint of a student: (a) "I belong to this academic community," (b) "my ability and competence grow with my effort," (c) "I can succeed at this," and (d) "this work has value for me" (p. 28). Carol Dweck's (2017) implicit theories of intelligence breaks academic mindsets into two competing domains: fixed versus growth mindsets. Those with fixed mindsets believe that they are naturally limited in their abilities, whereas individuals with growth mindsets believe that they can improve their intelligence with effort. Academic mindsets and intrinsic motivation are closely intertwined, as they both are social-cognitive processes. Academic mindsets are also closely related to academic perseverance. Farrington et al. (2012) argued that mindsets impact an individual's ability to persevere. Similarly, Blackwell et al. (2007) found that individuals with positive mindsets are likely to establish goals and persevere to reach

those goals by trying varying, positive learning strategies. There are numerous studies that show that mindset interventions can have a positive influence on student academic mindsets, thus directly influencing their abilities to persevere. However, most of those studies occurred outside of the regular classroom and without the practitioner knowledge and relationships that are found inside that classroom during regular academic instruction.

Literature Review—Student Self-Assessment

- Self-assessment is a process in which students monitor their thinking and learning behaviors and identify strategies to improve their understanding and skills (McMillan & Hearn, 2008).
- Farrington et al. (2012) categorize self-assessment as a learning strategy because it is a tactic students can use to enhance their learning.
- Self-assessment requires deep metacognition to understand where students are in the learning process and what changes they need to make to improve their understanding (Flavell, 1979; Hacker et al., 2009; Zimmerman & Schunk, 1989). Self-assessment is a formative assessment strategy (Black & Wiliam, 1998; Fluckiger et al., 2010; Sadler, 1998; Stiggins, 2008) that uses a goal-oriented process to allow learners to compare their progress to clear external benchmarks (McMillan & Hearn, 2008).
- Self-assessment should occur during the learning process to provide feedback and enhance student motivation during instruction. Obtaining feedback during the learning process leads to more substantial achievement, increased student motivation and persistence, and positive mindsets towards learning (Black & Wiliam, 1998; Rolheiser & Ross, 2001).

Self-assessment is a process in which students monitor their thinking and learning behaviors and identify strategies to improve their understanding and skills. Essentially, self-assessment practices allow students to judge their work to find discrepancies between their current performance and their desired outcomes. Self-assessment is categorized by Farrington et al. (2012) as a learning strategy because it can be used by students to improve learning outcomes. Self-assessment requires metacognition to understand where they are in their learning and the adjustments that need to be made to improve their learning. It is an individualized, formative assessment strategy tied directly to goal orientation and allows learners to compare their progress to external indicators. Self-assessment occurs during learning and can often improve motivation, achievement, and persistence—often leading to a positive mindset towards learning outcomes.

Literature Review—Teacher Feedback

- Feedback is "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie & Timperley, 2007, p. 81).
- One of the critical aspects of learner growth in the formative assessment process is the quality of feedback received by the student (Black & Wiliam, 1998; Hattie & Timperley; 2007; Shepard, 2000).
- According to Chappuis (2012), quality feedback should be descriptive, focused on the intended learning outcomes, targeting strengths and areas of improvement, timely, specific, delivered in student-friendly language, and should provide suggestions for improvement.
- According to Chappuis (2009), teachers must establish three conditions before feedback can occur: (1) provide students with the targeted learning outcome; (2) design instruction to be situated within the learning objective; and (3) design assignments and assessments in a way that offers students a clear understanding of their intended learning results. Hattie and Timperley (2007) argue that teachers should strive for immediate delivery for feedback to be most effective.

Feedback is a crucial component of student learning that is typically provided by a teacher to a student, regarding aspects of that student's performance. Feedback should be descriptive, focused on outcomes, targeting strengths and areas of improvement, and it should be timely, specific, delivered in a language students can understand, and offer suggestions for improvement. Before feedback can occur, three conditions must be met: (1) learning targets must be provided, (2) instruction must be geared towards the learning objective, and (3) assignments and assessments must be clearly tied to the desired outcomes. Immediate feedback is the most effective.

Literature Review—Rubrics

- A rubric is a "set of written guidelines for distinguishing between performances or products of different quality" (Wiggins, 2013, p. 1).
- Rubrics provide clear criteria, descriptions, and desired outcomes.
- Quality rubrics provide indicators and descriptors for each level of performance, and they outline clear learning expectations. Best practices are to provide rubrics in advance of learning to outline intended targets.
- Rubrics can go beyond curricular components to also include behaviors and other desired outcomes. Identifying and growing targeted noncognitive factors through clearly defined rubrics could be a potential next step in noncognitive factors research.
- The Noncognitive Factors Rubric is an evaluative tool used by River Valley to help students grow their noncognitive factors. The rubric is organized into three sections: learning skills, descriptions of learning skills, and the scoring section. The learning skills section of the rubric identifies four specific learning skills: Student engagement, responsibility, collaboration, and independent work.

Rubrics are tools used by teachers to provide a basic guideline for distinguishing works of different products or quality. According to Phillip (2002), rubrics support learning by providing clearly defined criteria, outcomes, and standards. Wiggins (1998) states that they specify critical elements and distinguish between quality and less than quality work. An effective rubric lists descriptors and indicators for each level of performance (Wiggins, 2013). Rubrics allow learners to see clearly defined standards and examples for each level of performance. Teachers should create rubrics before the performance task occurs (Phillip, 2002) to incorporate the best practice of backward instructional design, meaning that goals are selected before instructional methods are chosen (Wiggins & McTighe, 1998). Wiggins (2013) states that rubrics can communicate indicators of achievement related to behaviors and techniques. River Valley Elementary's use of the Noncognitive Factors Rubric is the crux of this study, as it breaks noncognitive factors into four main components: student engagement, responsibility, collaboration, and independent work. These components are the backbone of noncognitive factors learning

in this school. Each Noncognitive Factors Rubric description connects explicitly to Farrington et al.'s (2012) five categories of noncognitive factors framework.

Purpose of the Study

- The purpose of this study was to address the gap in research surrounding the lack of best classroom practices for growing elementary student noncognitive factors as an aspect of regular classroom instruction.
- This study evaluated teachers' and other certified staff members' perceptions of the effectiveness of using the Noncognitive Factors Rubric to grow student noncognitive factors, and thereby, guide student self-assessment and teacher feedback.
- This study also sought to identify best classroom practices for growing elementary student noncognitive factors based on teacher/staff perceptions.

By understanding the experiences of teachers and staff, I had hoped to gain an understanding of the impact that noncognitive factors interventions have on growing student noncognitive factors over time. Additionally, I have wanted to gain a better understanding of the impact that the Noncognitive Factors Rubric has on guiding student self-assessment and teacher feedback around noncognitive factors. Lastly, I sought to learn the best practices currently being employed to grow student noncognitive factors in the regular classroom.

Overarching Question: According to elementary school educators, what impact do schoolwide noncognitive factors programming and interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time?

Research Questions

1. How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth?
2. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?
3. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?
4. According to elementary school educators, which classroom and schoolwide practices most significantly impact student noncognitive factors growth?

This study answered the following overarching question: According to classroom teachers and schoolwide staff, what impact do systematic noncognitive factors interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time? The additional probing questions to help understand this question were

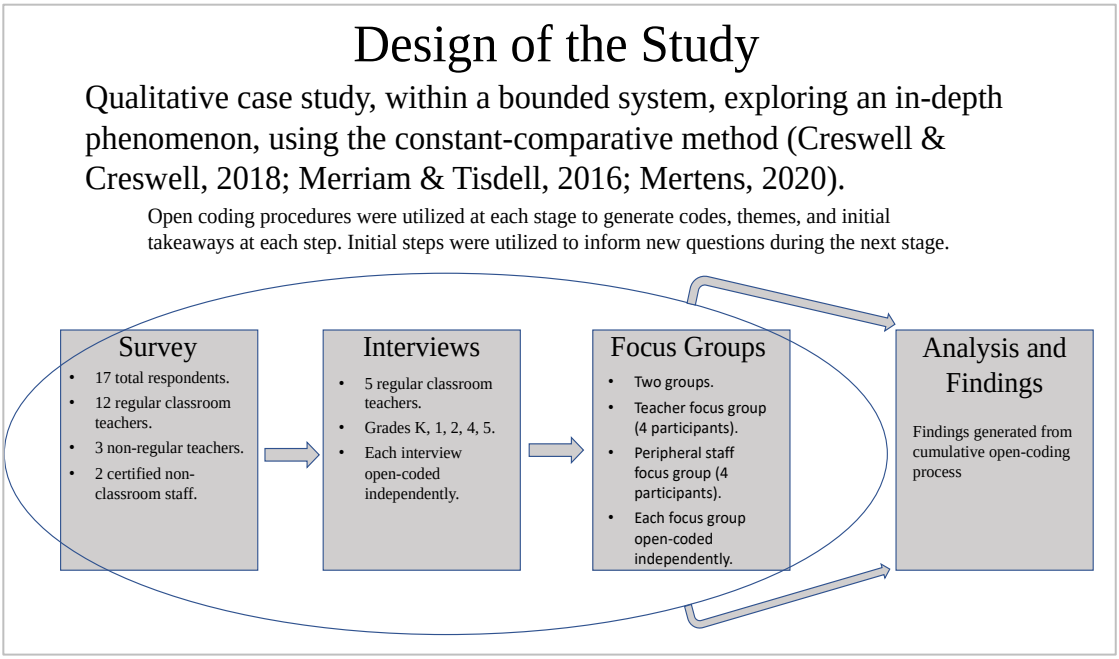
1. How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-assessment and self-awareness related to noncognitive factors growth?
2. According to elementary educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?
3. According to elementary educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?

4. According to elementary school educators, which classroom and schoolwide practices most significantly impact student noncognitive factors growth?

Setting

- River Valley Elementary (pseudonym).
  - Public elementary school in a rural-suburban area in the midwestern United States.
  - Approximately 497 students in grades K-5.
  - Student demographics: 87% White; 13% from racially underrepresented groups; 48% qualify for free/reduced lunch; 21% with IEPs.
  - Staff demographics: 35 certified staff; average of 15 years experience.

River Valley Elementary school (a pseudonym) is the second largest elementary school in the North School District (a pseudonym). It is a public K-5 school located in a rural-suburban area on the periphery of a metropolitan area with over 1 million people in the U.S. Midwest. River Valley enrolls approximately 497 students, of which 87% are White and 13% come from underrepresented racial groups. These groups include African American, Hispanic, Asian, and mixed-race populations. River Valley has a substantial number of students who come from lower socioeconomic households, as shown by 48% of students qualifying for free or reduced meals. River Valley qualifies as a Title I school and receives additional federal funding to support learning in the school. The school employs 35 certified teachers and staff members, whose average years of services is 15. The staff are employed in a wide range of positions: the administrative team, counselor, speech-language pathologist, reading specialist, math interventionist, special education teacher, and regular classroom teachers.



The researcher used a case study approach to explore certified teachers and certified staff perceptions of noncognitive factors interventions and programming at River Valley Elementary. The goal of this process was to develop a deep understanding of the phenomenon being studied. Each method built upon the previous method. The study began with an initial survey. The survey results were coded and themed, and the initial results were used to inform specific changes to the question protocols used for each interview. Participants were selected for interviews based upon fidelity of implementation of noncognitive factor interventions, as informed by their survey responses. Implementation fidelity is defined as “the degree to which a program model is instituted as intended” (Dhillon et al., 2015, p. 9). After each interview occurred, it was transcribed and open-coded to generate codes and to inform themes. These initial results were used to inform changes to the focus group protocols, with the goal of asking questions that had not been answered already or to clarify responses. Two focus groups were held: one for regular classroom teachers, those who implemented noncognitive

factors interventions within their classrooms, and the other for peripheral certified teachers and staff. The goal of this focus group was to gain a better understanding of the big picture effects of noncognitive factors programming on the entire school and on widescale student noncognitive factors growth.

Methodology

- Survey
  - All certified teachers and staff were invited to participate (teachers, principals, counselor, reading specialist, speech-language pathologist, etc.).
  - Utilized purposive sampling (Mertens, 2020).
- Interviews
  - Participants chosen via typical-case sampling (Mertens, 2020).
  - Grade-level teachers responsible for direct implementation.
  - Occurred one-on-one with a survey-informed question protocol.
- Focus Groups
  - Two focus groups: classroom teachers and peripheral staff.
  - Participants chosen via typical-case sampling (Mertens, 2020).
  - Four participants in each group.
  - Question protocol developed based on prior initial results of interviews.

The survey was provided to all certified teachers and staff members, 35 in total, at River Valley Elementary. Eighteen teachers or staff chose to participate in the study. Seventeen teachers or staff members completed the survey. The survey was comprised of 22 questions on the following topics: four about demographics, seven about implementation (regular classroom teachers only), eight about perception, and three about best practices/improvement (classroom teachers only). The initial results were open-coded and used to inform the participants during the interviews and the specific question protocols used for each interview. Five one-on-one interviews occurred with regular classroom teachers in grades K-5 (with the exception of third grade because no third grade teachers agreed to participate in the interviews). Each interview utilized the base question protocol with additional questions generated from their survey responses. Each interview was transcribed, open-coded, themed, and member checks were used to help validate the researcher's findings. The results of each interview were used to generate additional questions or needed clarifications for the later focus groups. Participants were

chosen for the focus group through typical case sampling. The goal of using typical case sampling for both the interviews and focus groups was to learn from the participants who had the best and richest information to share. Two focus groups were held: one for regular classroom teachers and one for peripheral staff. The teacher focus group included four participants representing kindergarten and first, fourth, and fifth grades. The peripheral staff focus group included four participants: the assistant principal, counselor, reading specialist, and math interventionist. Each focus group was independently transcribed, open-coded, and themed. The initial results of the surveys, interviews, and focus groups were cumulatively analyzed, re-coded, and re-themed to develop the study-wide findings and recommendations for River Valley Elementary.

All 35 certified teachers and staff members at River Valley were invited to participate in this study. The researcher invited them to participate via blind carbon copy email and each were provided with an overview of the study, the possible risks and benefits, and the consent document. Eighteen teachers or certified staff members participated in this study, meaning that 51.4% of certified staff members chose to participate. However, 17 participants completed the survey. Six teachers were invited to participate in one-on-one interviews, all but the third-grade teacher chose to participate. Three additional third-grade teachers were invited to participate in an interview, but all declined to participate. Four teachers and four non-classroom certified staff members were each invited to participate in two separate focus groups. All individuals agreed to participate. The teacher focus group included a teacher from kindergarten, first grade, fourth grade, and fifth grade. The peripheral staff focus group included the assistant principal, one counselor, the reading specialist, and the math interventionist.

Findings for Each Research Question

- **RQ 1:** How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth?
- **RQ 2:** According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?
- **RQ 3:** According to elementary school educators, how do student self-reflection, self-assessment and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?
- **RQ 4A:** According to elementary school educators, which **classroom** practices most significantly impact student noncognitive factors growth?
- **RQ 4B:** According to elementary school educators, which **schoolwide** practices most significantly impact student noncognitive factors growth?

Five main areas were examined based upon the research questions. Each research question produced a varied number of findings. These findings, along with quotes from the participants will be highlighted in the following slides.

Research Question 1: How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth?

- Elementary school educators perceived the noncognitive factors rubric and its indicators as guideposts for helping to foster self-reflection and self-awareness related to noncognitive factors growth.
- Self-assessment was seen as a process that requires cognitive maturity, typically found in students in grades 4 and 5.
- They saw promise in an age-appropriate rubric intended for students in grades K-2.

Elementary school educators perceived the Noncognitive Factors Rubric and its indicators as guideposts to foster noncognitive factors learning. They saw self-assessment as a cognitively mature process typically seen only in older students. However, there was agreement that an age-appropriate rubric or reflection sheet, written in student-friendly language appropriate for younger students as well as with friendly scoring, was a possibility for students in kindergarten through second grade. Ultimately, because of the distinct nature of how they use the rubric, the findings for Research Question 1 was broken into two main age groups: grades K-2 and grades 4-5. The findings in this section help to answer the following question: How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth? It is important to note that the findings listed for this research question come from the teachers who implement this programming with the highest levels of fidelity. According to the survey, eight out of 12 respondents disagreed or strongly disagreed with the statement “as an

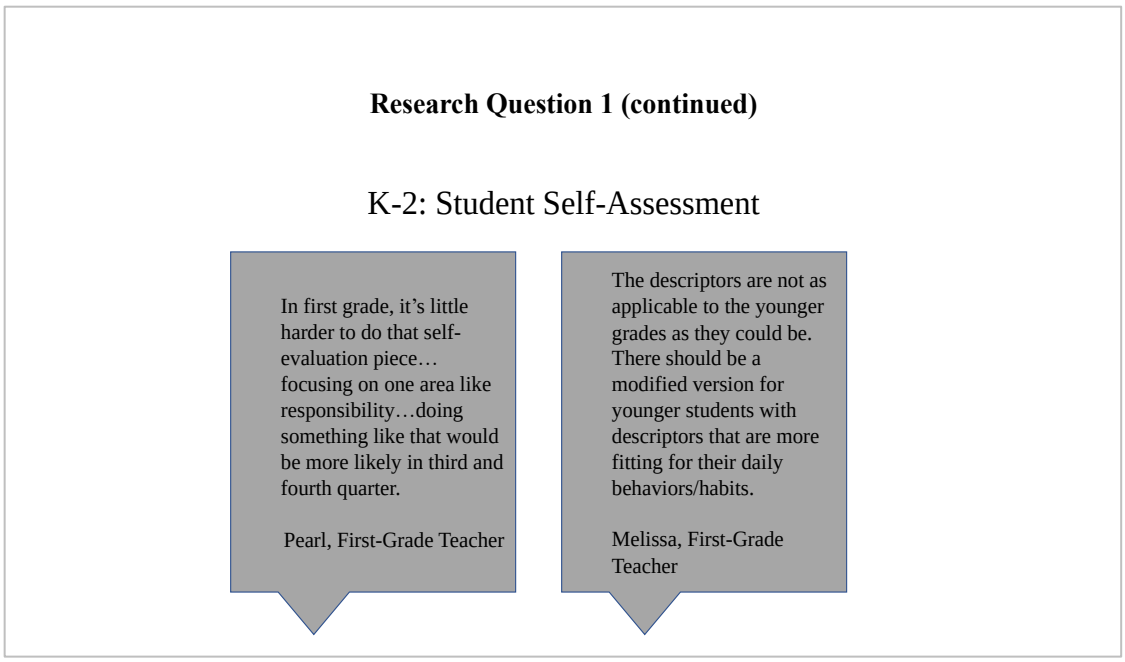
aspect of implementation in my classroom, students self-assess their progress on the Noncognitive Factors Rubric." This is attributed to the belief that younger students do not possess the cognitive maturity necessary for self-assessment.

Research Question 1 (continued)

K-2: Student Self-Reflection

> You have to just get a hold of the behaviors and naturally talk to them. Ask them questions like, oh, "You can't hang your backpack up. We'll keep working on it so you can keep all of your stuff organized. You won't be able to do it if you don't practice it. Keep at it, I know it's frustrating." So, it just kind of comes in naturally and gets them self-reflecting on their behaviors.
>
> Hillary, Kindergarten Teacher

At the K-2 level, the rubric serves more as a guidepost when getting students to self-reflect on their noncognitive factors. As Hillary described, there are many natural situations that occur with young students. The most important aspect is to model behaviors, correct incorrect behaviors, and allow them opportunities to practice and grow. Having conversations around situations for self-assessment allows students to self-reflect and grow.



At the K-2 level, students do not regularly self-assess using the rubric. Based on the language of the rubric (written for older students) and the cognitive developmental level of K-2 students, having them self-assess with the Noncognitive Factors Rubric is not a reasonable task. However, there is promise in a rubric that is written in a language that would be kid-friendly for younger students, breaking the task into smaller parts, and creating a reflection sheet that uses age-appropriate language combined with a rating scale that uses a smiley face, straight face, and sad face.

Research Question 1 (continued)

K-2: Student Self-Awareness

> For younger kids, there is a developmental process of picking apart the Noncognitive Factors Rubric and saying, 'What does student engagement look like? What does that mean when you hear that word? I am going to set a timer for five minutes and we will come back to talk about it." Sometimes they are masters at it, sometimes we might have to stop the timer at two minutes….They are still developing this skill, so I show them where that fits in the rubric.
>
> Pearl, First-Grade Teacher

As Pearl describes, self-awareness can be fostered by intentionally focusing on certain noncognitive behaviors to be grown. Teachers take the indicators (subfactors) for each aspect of the rubric and explain them in a way that younger students can understand. By breaking the concept into easy-to-understand language and by modeling appropriate behaviors, students can become more self-aware of appropriate noncognitive factors.

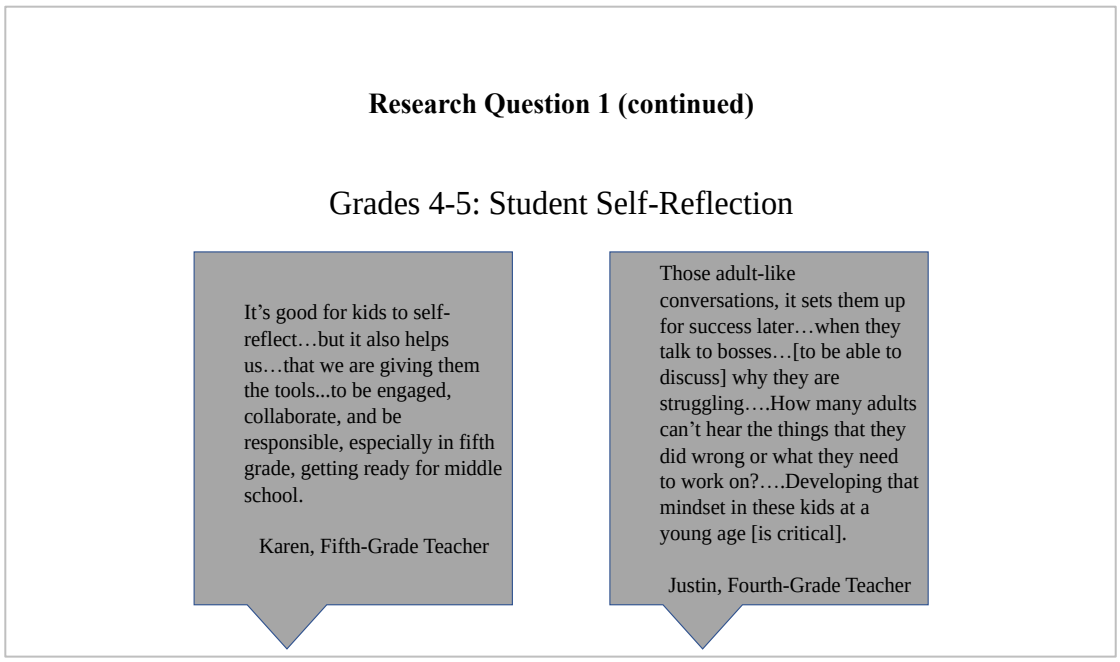
Research Question 1 (continued)

K-2: Noncognitive Factors and Academic Achievement

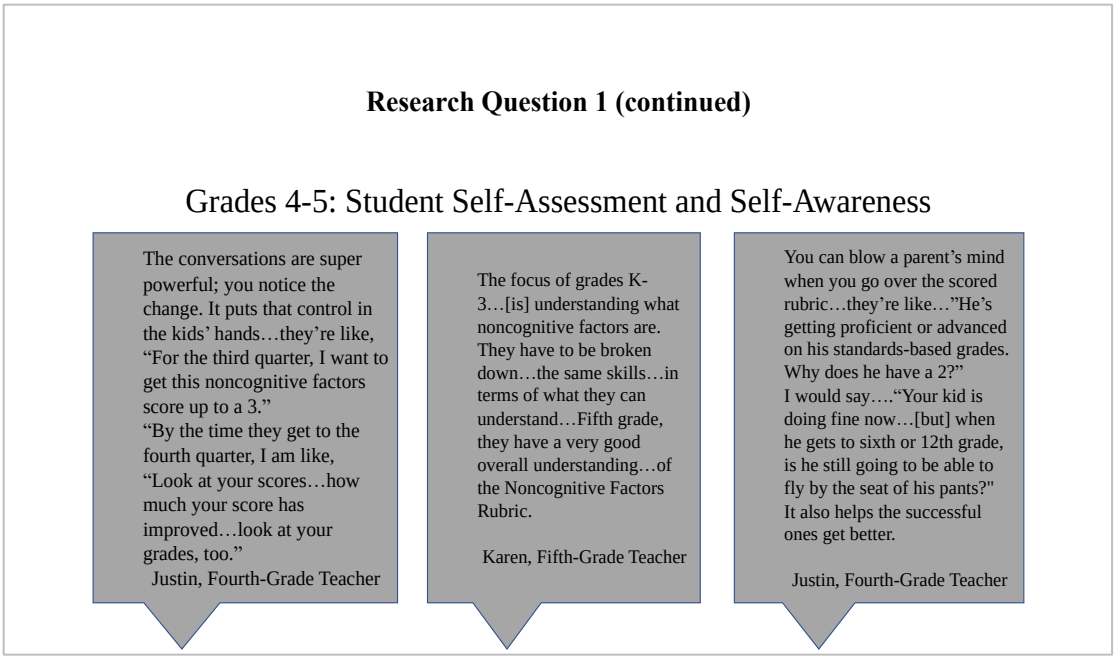
I think this rubric really dials in on these things that we want to see, and if we're not seeing those things, then you are not going to see your child get a 4 or a 3 or a 2 [on their report card grades], and I think that there's not an overwhelming amount of indicators or learning skills. It's pretty focused on 4, 5, or 6, depending on your grade level, and those expectations are very detailed. When you say to a parent, "Your child has a 1 or 2 in 'responsibility'," I mean, you can go back and point out how many missing items they have had. It just makes it very clear to parents."

Pearl, First-Grade Teacher

Pearl states that the Noncognitive Factors Rubric ties directly to academic achievement. During her conversations at parent-teacher conferences, she points directly to the correlation between a student's responsibility score (on the rubric), the student's number of missing assignments, and their overall standards-based grades.



Most of the self-reflection in the older grades (i.e., 4 and 5) takes place through conversations that occur on a regular basis. The indicators in the Noncognitive Factors Rubric serve as guideposts to focus on and allow opportunities to model, discuss, and correct behaviors. Justin saw those regularly occurring conversations as not only vital now but extremely beneficial for the future. Through those conversations, he allowed students to practice having dialogue around areas that they need to improve on, and it allowed them an avenue to understand their own level of noncognitive behaviors.



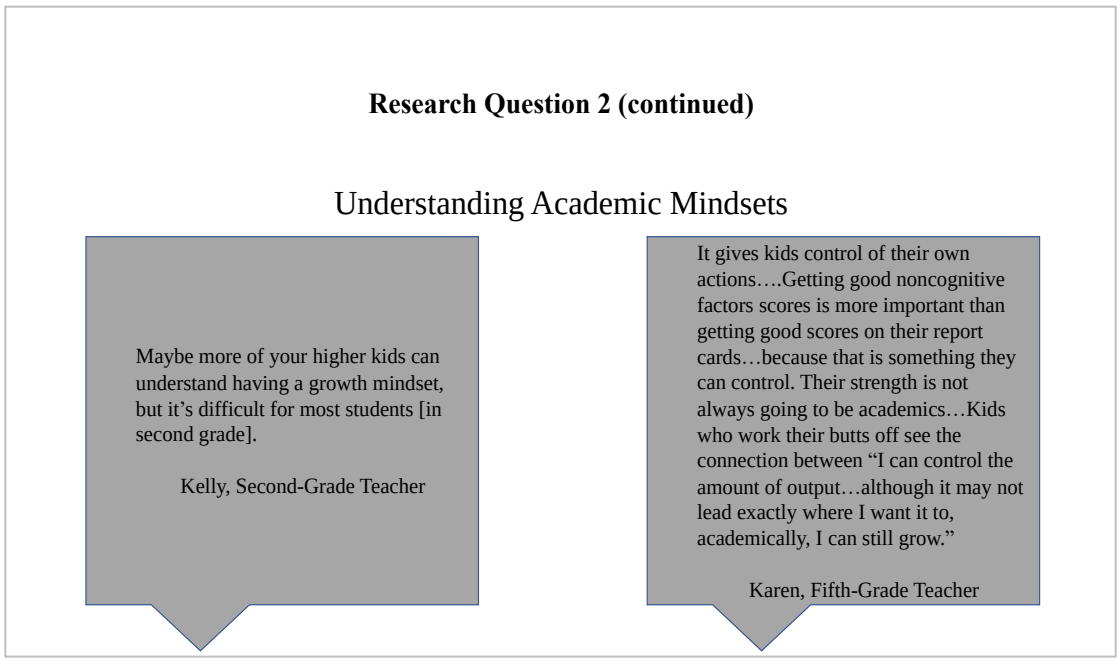
Upper grade level teachers take their students through a process of self-assessment using the Noncognitive Factors Rubric. Justin described an example of the types of questions that he asks students to get them thinking about why they gave themselves the scores that they did and to think about ways that they can grow their behaviors and increase their scores. Ultimately, it placed the responsibility for learning, goal setting, and growth on their shoulders. Karen shed light on the long-term approach to getting students to a point of where they can self-assess and be self-aware. This program builds the level of understanding that students possess to move them to the point where they can truly own their actions and be responsible for their growth. For students, knowing that they can control the behaviors that lead to their success is the ultimate motivation. Justin emphasized that self-assessment, self-awareness, and personal responsibility can positively impact student motivation. The great thing is, when compared to things like IQ and grades, noncognitive factors can be grown through awareness and effort.

Research Question 2: According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?

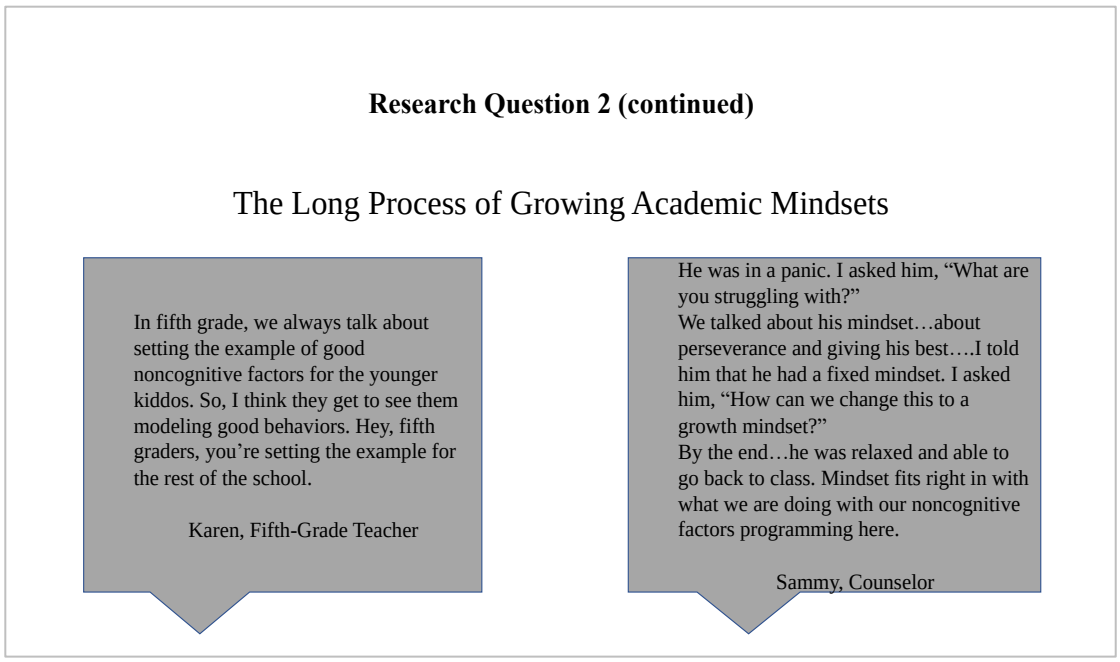
- Elementary school educators perceive self-reflection, self-assessment, and teacher feedback as having a positive impact on student noncognitive factors growth, specifically in relation to academic mindsets.
- Understanding one's academic mindset is often age/developmentally dependent. However, the process of getting students to understand their mindsets begins in the lower grades, as teachers equip students with the vocabulary and understanding of noncognitive factors and provide them with practice controlling their behaviors.
- By the time they reach fourth and fifth grade, students are cognitively mature enough to understand their mindsets and can often self-adjust.

Elementary educators perceived self-reflection, self-assessment, and teacher feedback as having a positive impact on student noncognitive factors growth in the academic mindsets domain. In the lower grades, they saw the self-understanding of academic mindsets as a cognitively challenging task above the abilities appropriate for younger students. The educators in the older grades saw these practices as extremely beneficial for students in growing their academic mindsets. Nearly all teachers saw great value in teacher feedback to help grow academic mindsets, even if younger students are not fully able to grow their mindsets. Ultimately, the process of getting students to a point where they can self-adjust their mindsets is a long process that builds from year to year. Consistently valuing and providing an understanding of noncognitive factors played a large role in the success of this in the upper grades. The results of Research Question 2 were categorized into two main findings: understanding academic mindsets and the long process of growing academic mindsets. Both sets of findings helped to answer this question: According to elementary school educators, how do student self-reflection, self-

assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain? Survey Question 20 asked respondents their level of agreement with the following statement "The Grit Score Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of a growth mindset. In other words, they are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort." Of the 14 respondents, nine agreed or strongly agreed with this statement. This is no surprise, as students' cognitive development is likely to greatly impact their ability to understand their mindsets. Teacher responses explaining the reasons they disagreed ranged from "I do not feel that it is developmentally appropriate" (Pearl, first-grade teacher) to "I think the younger students have a harder time grasping this concept" (Karla, second grade teacher). Brenda, the reading specialist, stated, "I don't know that the grit rubric has helped with the growth mindset. I think [what is most important is] building relationships with students and focusing on the growth mindset and showing them that they can do hard things and that with time, skills get easier for them. I think the relationships are more valuable than the rubric."



Understanding their academic mindsets is a difficult concept for most younger students. Kelly explained that it may be possible for some of the higher-functioning students who are more cognitively aware. However, most students in grades K-2 do not have the cognitive development to be aware of whether they have a fixed or growth mindset. By the time that students reach grades 4 and 5, their cognitive development has reached a level where they can understand their academic mindset and can make efforts to change their mindset and grow. Much of this is due to persistent work around noncognitive factors growth, combined with their cognitive maturation.



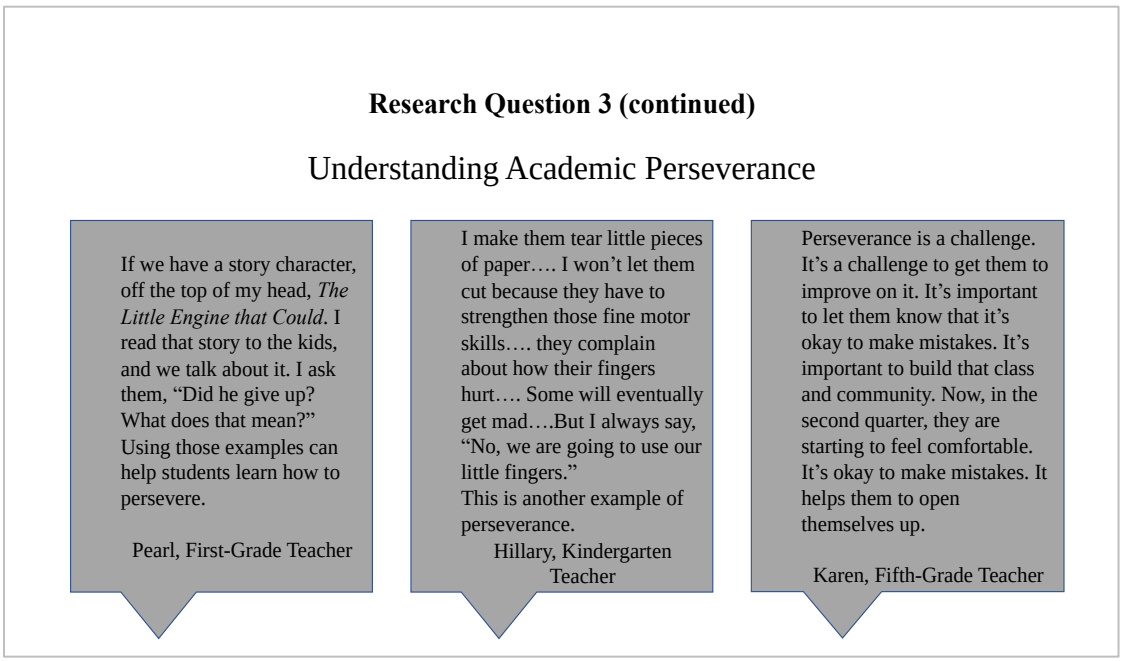
Fifth-grade teacher Karen shared the need for older students to model noncognitive factors for younger students. Specifically, in the academic mindsets domain, she discussed older students helping younger students by working with them in pairs. This allowed older students to explain and model growth mindsets to their younger peers. Noncognitive factors programming builds from year to year. By the time they reach the upper grades, students who are struggling can often be encouraged by using the language of noncognitive factors, what River Valley refers to as "grit." The example that the counselor Sammy provided sheds light on how conversations can lead to self-reflection and growth.

Research Question 3: According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?

- Elementary school educator perceive student self-reflection, self-assessment, and teacher feedback as having a positive impact on growing student academic perseverance.
- They see relationships, conversations, feedback, and pushing students to persevere as stronger impacts on academic perseverance growth than self-reflection and self-assessment, overall.
- However, in grades 4 and 5, they see great value in self-assessment as another aspect of helping students grow their academic perseverance.
- As with mindsets, there is a long process to growing academic perseverance. Lower grades set the foundation that grades 4 and 5 build upon.

Overall, educators saw self-reflection, self-assessment, and teacher feedback as having a positive impact on student noncognitive factors growth; however, they saw relationships, conversations, and pushing students to persevere as being the most impactful. Teachers in the upper grades found great value in all of these processes for growing academic perseverance. Similar to academic mindsets, growing perseverance is also a long process that builds from year to year as students cognitively mature. The findings for Research Question 3 are categorized into two main categories: understanding academic perseverance and the long process of growing academic perseverance. These two sets of findings help to answer this question: According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain? Survey Question 22 asked respondents to mark their level of agreement with the following statement: “The Noncognitive Factors Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of perseverance when it

comes to difficult tasks. In other words, they are more likely to face difficult academic challenges and work to overcome those challenges." Of 14 respondents, 10 agreed or strongly agreed with this statement. Four respondents had no opinion or disagreed. Explaining why she did not agree, Melissa, a first-grade teacher, stated, "I believe the idea of 'grit' helps them to persevere through difficult tasks. I do not believe the actual rubric is as effective for the younger students." Karla, a second-grade teacher, agreed with this statement but added, "We talk in the classroom about how when things get hard, we have to give our best effort." Teachers do see value in the rubric as a guidepost for growing perseverance; however, relationships, conversations, and pushing students to persevere were felt to be more effective in helping students to grow their perseverance.



Hillary, a kindergarten teacher, shared an intentional practice that she uses with her students to not only build up muscle stamina but to teach perseverance. Using language like "perseverance," in kid-friendly language and by pushing students into situations where they must persevere builds an understanding and provides practice for student perseverance. Pearl shared an example of teaching about perseverance using stories. The use of storybook characters is a strategy employed by many teachers in grades K-2 to teach and model noncognitive factors such as perseverance. The stories are a vehicle for discussions to help students grow. Karen explained that by the time most students reach fifth grade, they are often aware of where they believe they fit academically compared to their peers. Students who do not possess a growth mindset see themselves as behind their peers and can engage in performance avoidance behaviors. They are also sometimes more afraid to make mistakes. Karen believes in the importance of creating a class environment that allows mistake making to be the first step to learning

and growing. It is a process that takes time, as they just begin to feel comfortable with mistake making by the second quarter.

Research Question 3 (continued)

The Long Process of Growing Academic Perseverance

As the reading specialist, I work with students from all grade levels. I have the unique opportunity to see their growth. Perseverance is definitely an area that they grow. For the younger students, they begin to display greater perseverance. By the time they reach third, fourth, or fifth grade, they are much more aware of their ability to persevere. This is a combination of their developmental readiness and the work of the teachers in the younger grades.

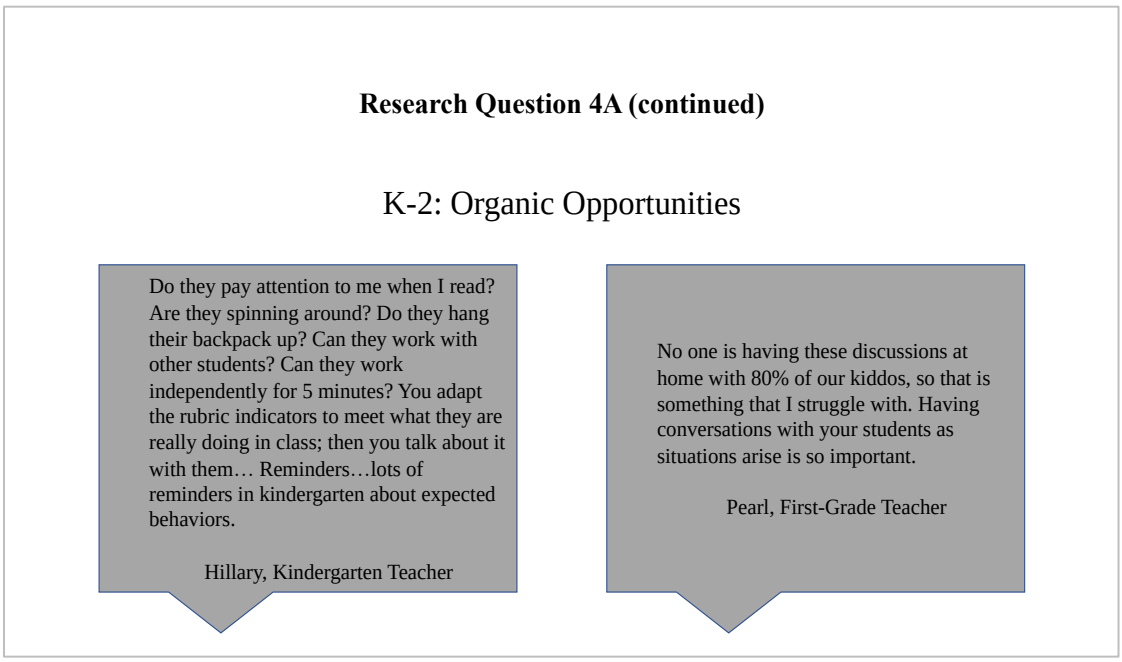
Brenda, Reading Specialist

As the reading specialist, Brenda serves students in all grade levels. She saw firsthand the growth of perseverance and other noncognitive factors in students. She chalks it up to a combination of their exposure to perseverance and their mental maturation.

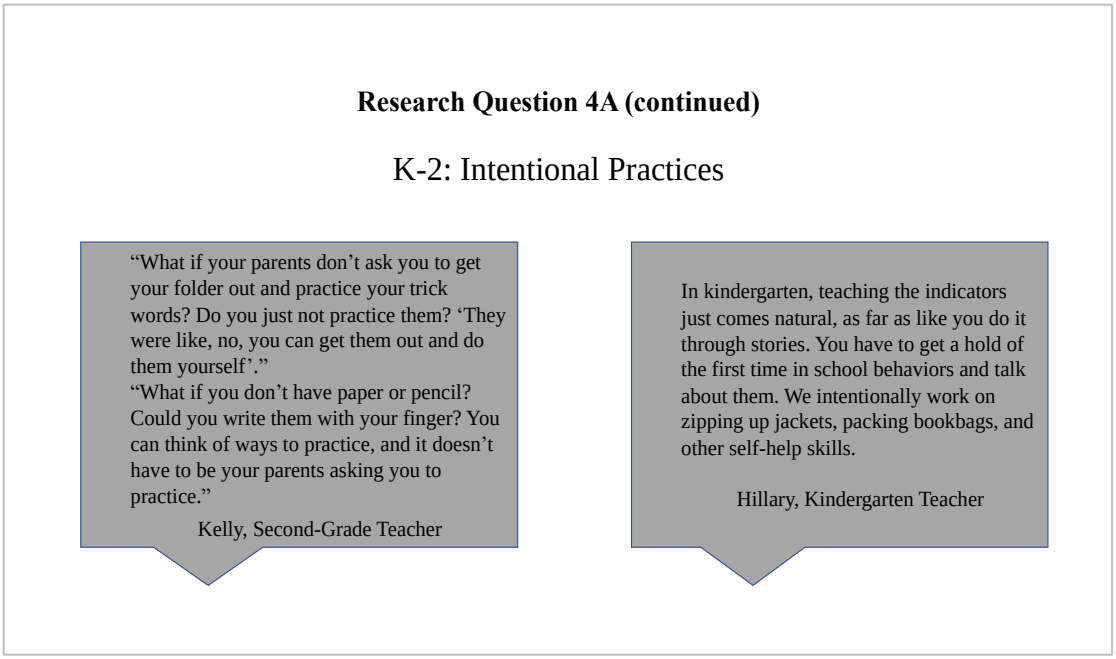
Research Question 4A: According to elementary school educators, which classroom practices most significantly impact student noncognitive factors growth?

- According to elementary school educators, the classroom practices that have the most significant impact on student noncognitive factors growth fall into two main categories: organic opportunities and intentional practices.
- Organic opportunities are instances that arise that provide an opportunity to teach, model, and discuss noncognitive factors learning.
- Intentional practices are preplanned learning experiences that require students to grow their noncognitive factors.

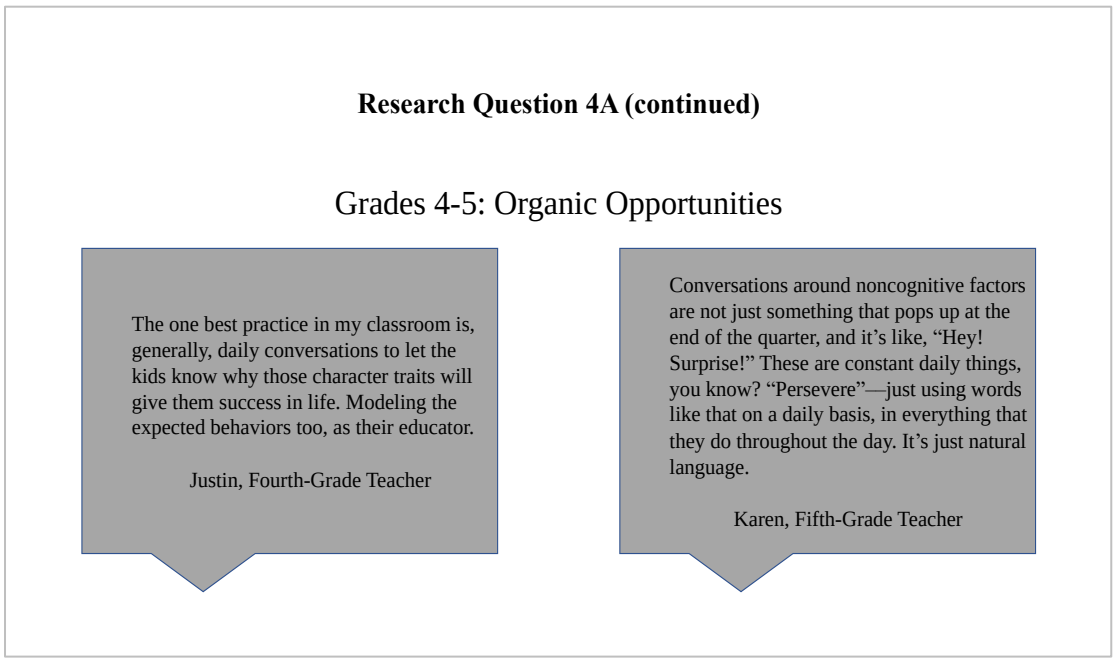
Elementary educators saw best practices fall into two categories: organic opportunities and intentional practices, which held for the two age-based: K-2 and 4-5. Organic opportunities focused on those natural instances for learning that occur every day in the regular classroom. Intentional practices occurred as teachers focused on specifically attempting to help their students to grow. The findings for Research Question 4 can be reduced to two groups: 4A-classroom practices (also divided into two grade-level groups) and 4B-schoolwide practices. These findings help to answer this question: According to elementary school educators, which classroom practices most significantly impact student noncognitive factors growth?



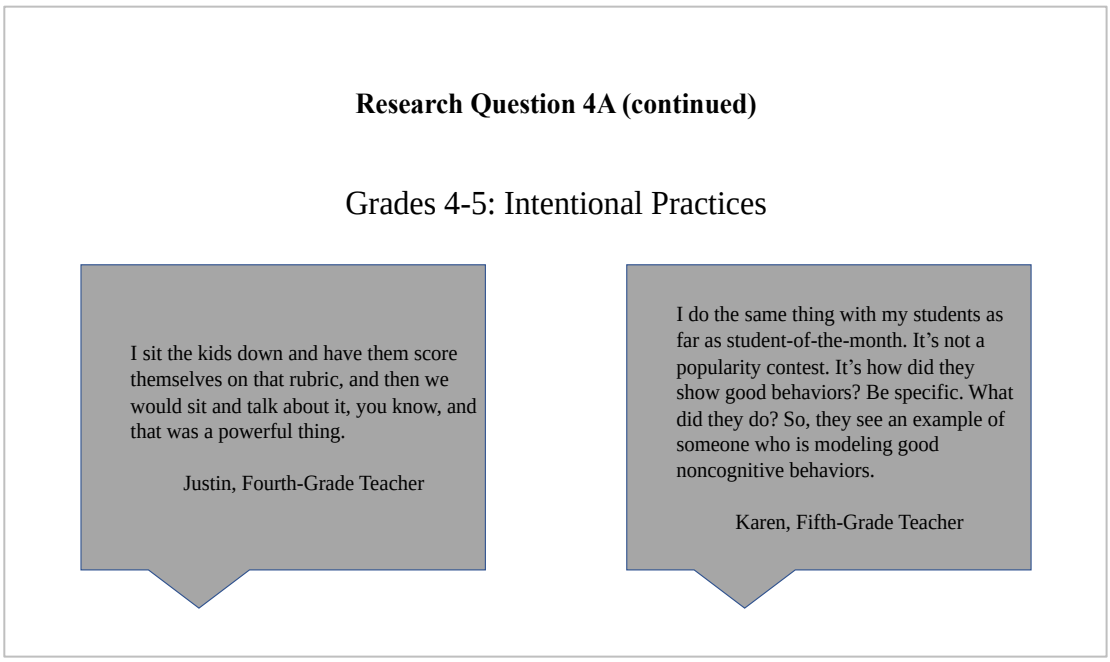
Teachers in the lower grades looked for organic opportunities to teach about noncognitive factors. By adapting the rubric indicators to real-life situations in the classroom, they were prepared when instances arose to converse with students, correct behaviors, and model behaviors for students. It was an ongoing process. Pearl also described the need for organic conversations with her students. She believes that the work she is doing around noncognitive factors has great value; otherwise, students would not be growing these skills or would be doing so only by relying on the efforts, or lack thereof, at home.



Teachers of younger students also use intentional practices to help students grow their noncognitive factors. Kelly gave an example of how she talks with students to get them thinking about being responsible at home due to a potential lack of parental guidance. Hillary described the intentional teaching of noncognitive factors as natural for kindergarten students. Many aspects of what they must teach kids to get them ready for school lends itself naturally to opportunities to teach about noncognitive factors, such as persevering through difficult tasks, being responsible with personal items, and collaborating by learning to play and work well with others.



Students in grades 4 and 5 also benefit from organic opportunities to learn and grow their noncognitive factors. Justin described the value of daily conversations that pop up as the need arises. These conversations can occur one-on-one, in small groups, or as a whole class. Susan, another fourth-grade teacher, identified aligning her expectations of students with the Noncognitive Factors Rubric, correcting mistakes, and prompting students to take their time and check their work. Karen shared that she doesn't only have noncognitive factors conversations when it is time to score noncognitive factors rubrics at the end of each quarter. Instead, they are a daily activity that occurs as situations present themselves. She described the language used as "natural" to the students.



Justin discussed the power of the self-assessment activities that students complete at the end of each quarter. Student self-scores are compared to teacher-scored rubrics, after which powerful learning conversations occur. Survey Question 18 asked teachers to rate their level of agreement with the following statement: "The Grit Score Rubric prompts excellent conversations around the behaviors expected of good learners and promotes student self-evaluation of their growth as students." Out of 14 respondents, 13 agreed or strongly agreed that student-teacher conversations around noncognitive factors promotes student self-evaluation of their growth. This means that even if students are not scoring themselves, teacher conversations are driving student self-reflection and self-evaluation. Most teachers in grades 4 and 5 have their students nominate their peers for student-of-the-month awards, where they must focus on noncognitive factors as the reasons to nominate another student. This process forces them to think about the students with the best noncognitive behaviors and to self-assess where their behaviors are in

comparison. These awards also shine a light on the students who are successful and allows for those behaviors to be modeled for the other students.

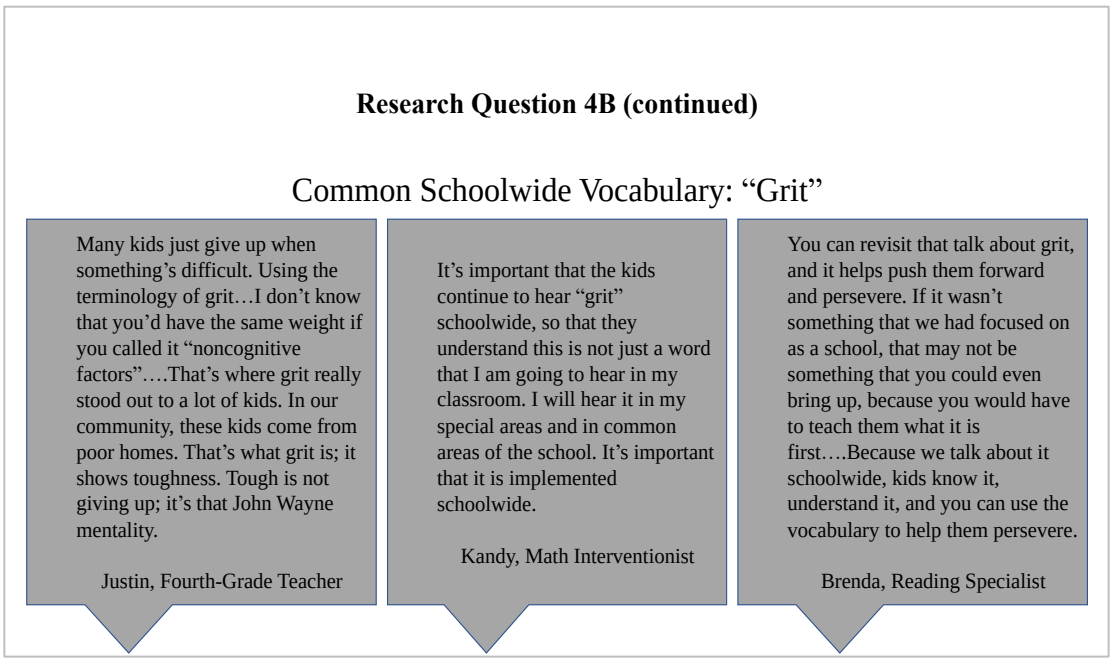
Research Question 4B: According to elementary school educators, which schoolwide practices most significantly impact student noncognitive factors growth?

According to elementary school educators, the schoolwide practices that have the most significant impact on student noncognitive factors growth are

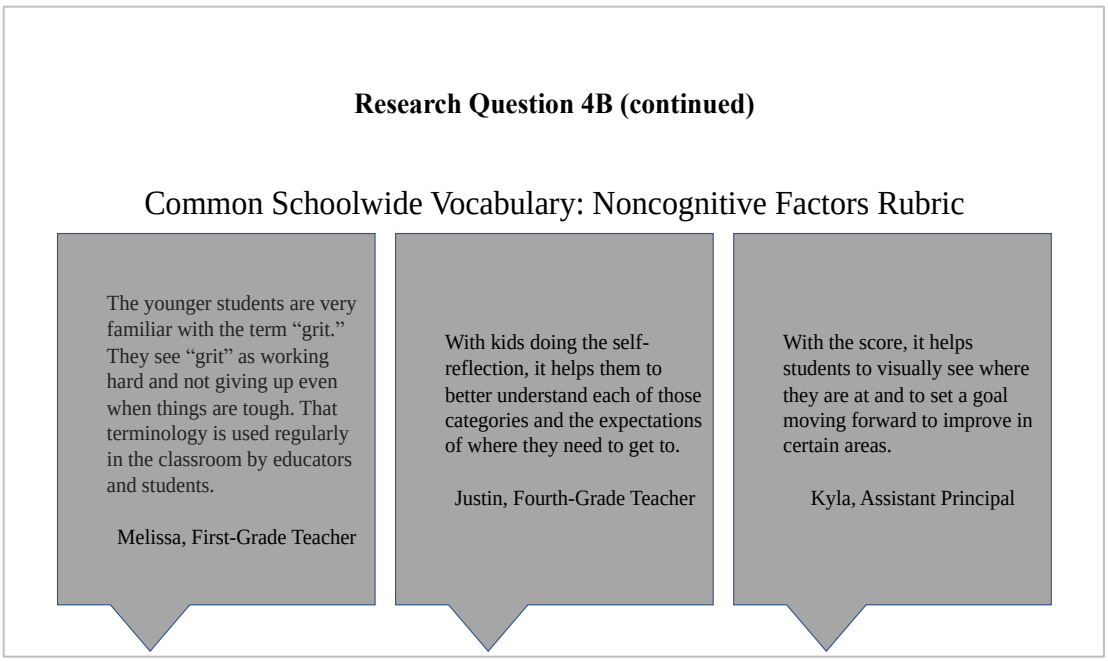
- Having a common schoolwide vocabulary for noncognitive factors.
- Schoolwide messaging and expectations.
- Schoolwide motivators.
- Professional learning community calibrations around rubric expectations, including rubric scores on reports cards.
- Most importantly, the principal as the leader of the schoolwide program.

Elementary educators pointed to a variety of schoolwide practices that most significantly impacted student noncognitive factors growth. These include having a common schoolwide vocabulary, common schoolwide messaging and expectations, schoolwide motivators that focus on and promote noncognitive factors growth, calibrations that occur in professional learning community (PLC) teams, plus scored rubrics as an aspect of the quarterly report cards. Most critical is the leadership of the principal, who spearheaded the charge and supported the program. The findings for Research Question 4 can be categorized in two groups: 4A-classroom practices and 4B-schoolwide practices. The findings for 4B are broken down into seven areas: common school vocabulary, schoolwide messaging and expectations, schoolwide motivators, professional learning community calibration, one-on-one conversations with the principal, rubrics on quarterly report cards, and the principal as leader. These findings helped to answer the following question: According to elementary school educators,

which schoolwide practices most significantly impact student noncognitive factors growth?



River Valley Elementary School uses the term "grit" to describe their noncognitive factors programming. Their version of grit is not wholly the same as Angela Duckworth's (2007) noncognitive factor known as "grit," which means "passion and perseverance for long term goals." However, Justin described the importance of the word "grit" as a symbolic term used to describe what it takes to overcome any type of challenge. He called it the "John Wayne mentality" and said that this whole program would not be successful if you just referred to these skills as "noncognitive factors." According to Kandy, "grit" is the language that they use. The indicators on the rubric are the guideposts for grit programming in the school. "Grit" is truly a schoolwide vocabulary term. It means the same thing in every classroom, in the hallways, and in the minds of kids. According to Brenda, having that common language is vital for continuity and student noncognitive factors growth. Grit language can be used to refocus students who are having a difficult time. This is made possible by the schoolwide approach and the learning that builds from year to year as students progress.



In the lower grades, teachers use the Noncognitive Factors Rubric for two main purposes: (1) as a guidepost about which behaviors to focus on and as a common vocabulary term and (2) for guiding conversations with and understanding student growth when talking with parents. Pearl shared that her first-grade students do not even know a rubric exists but begin to understand the vocabulary around noncognitive factors. Melissa, another first-grade teacher, agreed that "students begin to understand the terminology of noncognitive factors." Janet, a kindergarten teacher stated, "I really like being able to use "grit" as a common word in my classroom. I try to focus…on them trying their best and not giving up when something seems difficult or new."

The noncognitive factors rubric plays a much more pronounced role in grades 4 and 5. Students are very aware of the rubric, know the indicators that the rubric uses, and use the rubric to self-assess quarterly. Kyla described the Noncognitive Factors Rubric as beneficial for older students to understand their noncognitive factors growth and to set goals to improve those behaviors, and thus, their academic success.

Research Question 4B (continued)

Common Schoolwide Messaging/Expectations: Symbolism

> We have posters in our room. They are the same as in the art room, the hallways, etc. Eventually, they are going to get it…. The principal comes around during the quarterly brag tag assemblies. He asks students to show their "grit" faces. Some kids get it; they show a tough face. Some kids are just sitting there smiling, so at their age, they are still learning what toughness is.
>
> Pearl, First-Grade Teacher

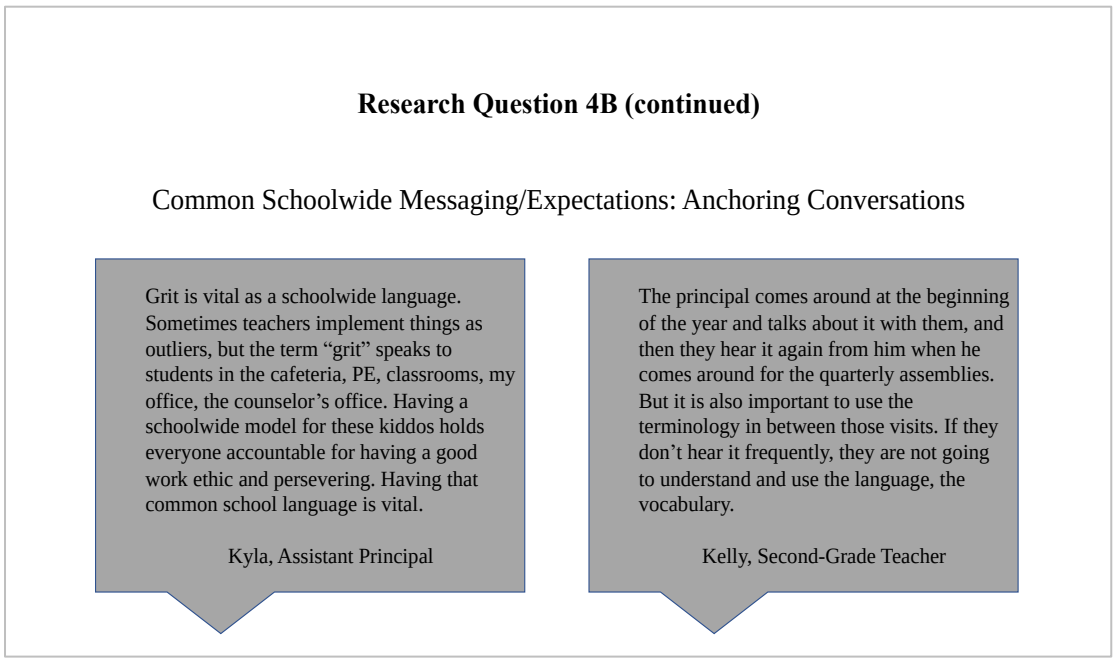
The symbolism of grit programming is strong. As Pearl stated, from the classrooms to common areas, signage and the word "grit" are everywhere. Grit has also become a mindset of toughness for many students. Grit equates to having what it takes when things get tough and giving your best effort in all things.

Research Question 4B (continued)

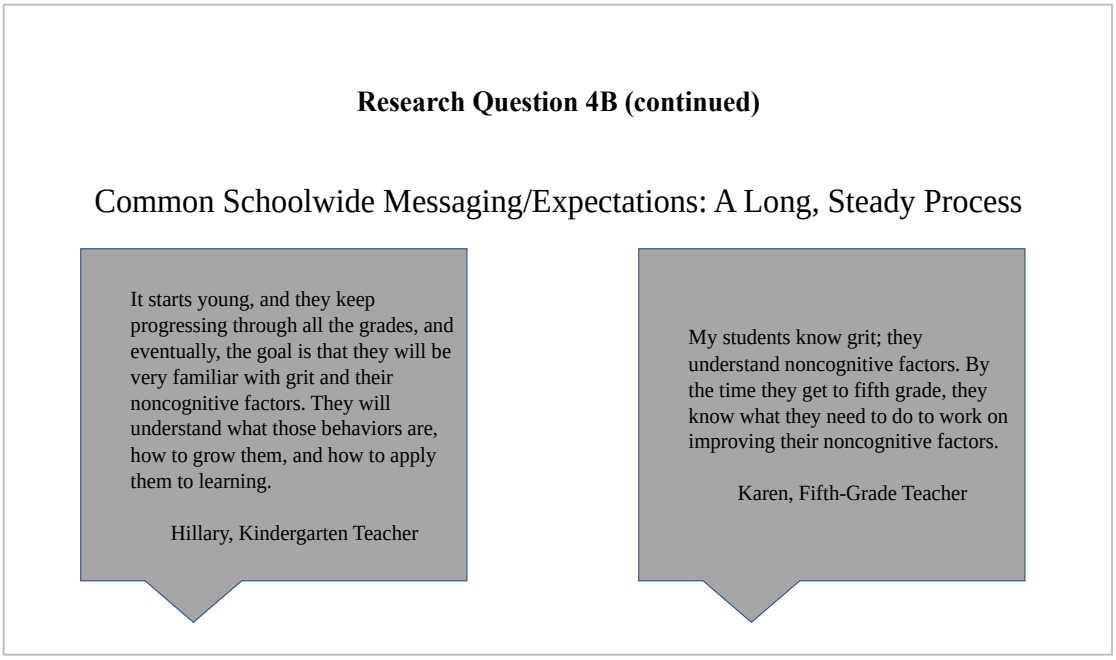
Common Schoolwide Messaging/Expectations: Mission and Culture

> Our mission of building champions of achievement and character fits completely into what grit is, and the building champions part of it. I think that with us teaching noncognitive factors and what grit is, that's how you build champions. So, yes, what we are doing fits directly into that.
>
> Sammy, Counselor

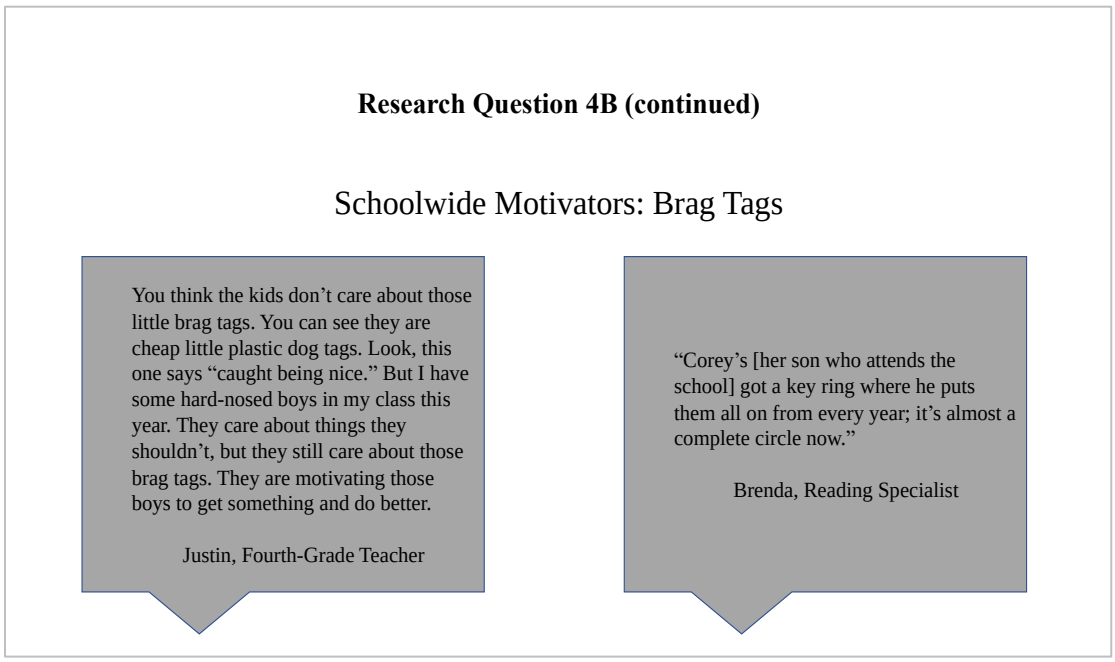
Grit/noncognitive factors programming ties directly to the mission of the school. The mission of "building champions of achievement and character is done through their noncognitive factors programming," said Sammy, the counselor.



Kyla, the assistant principal, described the language of grit as universal throughout the building. This is because of numerous factors, including principal leadership, symbolic signs throughout the building, rituals such as brag tags and student-of-the-month awards, and through a rubric with common indicators. Kelly discussed how the principals have anchoring conversations around noncognitive factors at the beginning of the year and during the quarterly brag tag assemblies. River Valley supports their noncognitive factors programming using various schoolwide motivators, one of which is the brag tag. Brag tags are given to students who excel at certain noncognitive factors Those anchoring discussions are necessary for students to understand expectations and to have a common language. However, conversations around the terminology must be ongoing for the language to become a part of students' self-selected vocabulary.



Hillary described how growing noncognitive factors is a long process. It begins in the lower grades by teaching and modeling the behaviors and using the vocabulary. According to Karen, by the time they reach the upper grades, students understand the expectations, how to grow their noncognitive factors, and how these factors connect to how they learn. By the time students reach fourth and fifth grade, they typically have a solid understanding of the noncognitive factors that the school focuses on. They understand the language, and they have strategies for how they can continue to grow their noncognitive factors and other learning behaviors.



Justin described how even some of the toughest students to reach still care about receiving brag tags. Kandy, the math interventionist, described them as a "badge of honor." Brenda, who is also a parent of two students in the school, discussed how her fifth grade son has accumulated nearly a key ring full of brag tags over his years at River Valley. For many students brag tags are highly motivational.

Research Question 4B (continued)

Schoolwide Motivators: Student-of-the-Month Awards

I make my kids nominate other kids, and they have to give a reason. That reason is generally around grit. Generally, kids pick their best peers, and those kids become the model of what those behaviors should look like.

Justin, Fourth-Grade Teacher

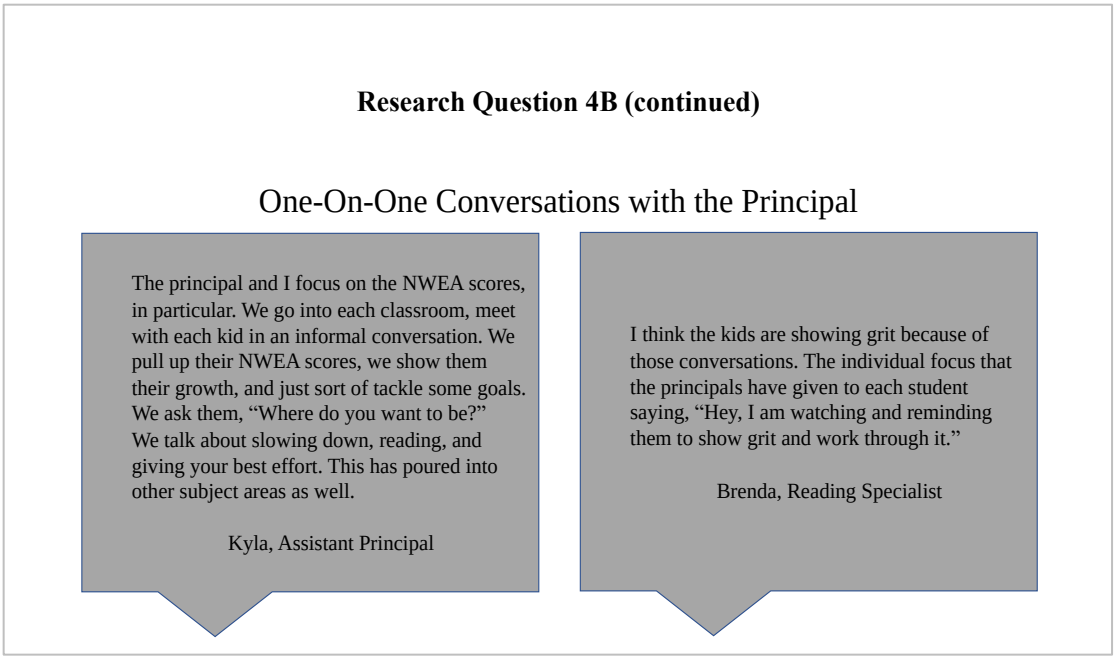
Student-of-the-month awards typically focus on students who display the highest levels of noncognitive factors. These awards reinforce the behaviors of the students who give their best effort and work to overcome challenges. Students in Justin's class nominate their peers for student-of-the-month, and their nominations must focus on aspects of their classmate's noncognitive factors.

Research Question 4B (continued)

Professional Learning Community (PLC) Calibration

> In kindergarten, we get together and talk about how the rubric applies to our kiddos. We talk about the rubric's expectations versus what we see. The rubric is really written for older students, so we have to adapt and apply it to kindergarten kiddos.
>
> Hillary, Kindergarten Teacher

Another key practice that impacts student noncognitive factors growth is professional learning community (PLC) calibration. Teachers calibrate around what noncognitive factors should look like at their grade level, activities that can be used to grow these behaviors, and serve as a vehicle to support this program at each grade level and schoolwide. Hillary described this process as creating "common expectations" at her grade level.



The principals meet with each student after they have completed their NWEA MAP (Measures of Academic Progress) tests. The principals focus their conversations on aspects of noncognitive factors, including effort, perseverance, and the individual student's mindset. These conversations have helped to support student noncognitive factors growth. Brenda believes that these conversations are critical to the overall success of the program. Students and teachers realize that the principals are focused on noncognitive factors growth, and these conversations serve as a reminder of the value of noncognitive factors growth and programming.

Research Question 4B (continued)

Rubrics on the Quarterly Report Card

> Having that rubric right there by you during parent-teacher conferences is important because you are able to say, "This is the score they have on the report card, but this is how hard they are trying."
> It goes hand-in-hand. Being able to have that in your back pocket helps when conversations are tough. I don't have a lot of easy parent-teacher conferences because my students all struggle. But being able to say, "Yeah, but they are working hard," is a game changer.
>
> Brenda, Reading Specialist

Brenda described the importance of having scored rubrics available during parent-teacher conferences: they explain the "why" behind a student's academic success or lack thereof.

Research Question 4B (continued)

The Principal as Leader

My students and I were walking through the building and saw “grit”posted everywhere. One of my students, who happens to be an observant reader, was like, “The principal’s just all about that grit!”
If the principal was not coming into our classrooms and talking about what grit looks like, this whole thing would not be as successful.

Pearl, First-Grade Teacher

When the principal took over in this role, he adopted this program. He did it to promote better behavior, for kids to realize what responsibility is, what engagement looks like. These things would maybe catch up to them if we didn’t work on growing them. The principal adopted this program and has been all in ever since.

Justin, Fourth-Grade Teacher

Pearl described how both students and teachers notice the principal’s leadership in guiding noncognitive factors programming. She stated that without his leadership this programming and the subsequent student noncognitive factors growth would not be nearly as successful. According to Justin, the principal was responsible for bringing the noncognitive factors programming to River Valley and has fostered its implementation. He is responsible for its continued success by guiding the whole school through his vision of how this programming supports student success.

Overarching Theme: A long, steady process

According to elementary school educators, what impact do schoolwide noncognitive factors programming and interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time?

- Impact: Noncognitive factors programming and interventions are mostly successful at growing student noncognitive factors over time.
- Ownership: Growing noncognitive factors is a long process that builds from year to year as students cognitively mature and are expected to be more responsible for self-assessing their growth.
- Cumulative: Teaching students how to self-regulate the growth of their noncognitive factors is a long, steady process.

Successful noncognitive factors programming is a long and steady process. As students develop cognitively and progress from grade level to grade level, they receive more opportunities to self-reflect, self-assess, and become more self-aware of their noncognitive factors growth. This process has worked very successfully at helping students to grow their noncognitive factors, which in turn, can lead to greater academic success. It is essential that both school leadership and teachers implement this program to fidelity, as is appropriate for their grade level. The schoolwide noncognitive factors indicators, vocabulary, symbolism, and motivation are key to the success of this program and to subsequent noncognitive factors growth.

Survey Question 16 asked educators their level of agreement with the following statement: “I am supportive of and find value in the use of the Grit Score Rubric in helping my/our students to grow as students, learners, and people.” All 14 respondents agreed or strongly agreed with this statement. Survey Question 17 asked respondents to mark their level of agreement with the following statement: “The Noncognitive Factors

Rubric is effective for growing student noncognitive factors." Twelve out of 14 respondents agreed or strongly agreed with this statement. Therefore, there seems to be a high level of value around the use of the rubric and/or programming and interventions that are based on the rubric. Teachers are in support of this program's effectiveness for helping to grow student noncognitive factors. Survey Question 19 asked respondents to mark their level of agreement with the following statement: "The Noncognitive Factors Rubric has helped my/our students to grow as learners and has positively impacted their academic achievement." Of 14 respondents, 12 agreed or strongly agreed that the Noncognitive Factors Rubric has positively impacted student academic achievement. This is an encouraging sign for schoolwide and classroom noncognitive factors programming and interventions. One critical takeaway from this study is that for many teachers, the Noncognitive Factors Rubric and its noncognitive factors indicators serve as guideposts for noncognitive factors learning. Teachers saw more value in relationships, conversations, and in pushing their students to give their best effort and overcome difficult challenges. The rubric and its indicators are what provide teachers with a common vocabulary and set of expectations for noncognitive factors that can lead to more successful students.

Findings—Viewed Through the Lens of Prior Scholarship

- Impact: Studies have shown success in growing student noncognitive factors with targeted interventions (Bifulco, 2017; Blackwell, 2007; DiNapoli, 2018; Good et al., 2015; Paunesku et al., 2015; Yeager et al., 2016).
- Schoolwide and Classroom Contexts: Both schoolwide and classroom contexts play a substantial role in student noncognitive factors success (Farrington et al., 2012).
- Theoretical Framework: Academic mindsets, academic perseverance, learning strategies, and social skills all have an effect on academic behaviors and academic performance. Each of these categories also has a reciprocal affect on other noncognitive factor categories (Farrington et al, 2012).
- Goal Setting and Motivation: Self-assessment can lead to goal setting, and goal setting creates motivation and ownership of learning (Ames & Archer, 1988; Duda & Nicholls, 1992; Nicholls et al., 1985; Weiner, 1979; Winne & Hadwin, 1998; Zimmerman & Schunk, 1989, Zimmerman, 2002).

When viewed through the lens of prior scholarship, the findings of this study are strengthened. Prior research has helped to substantiate these findings, and these findings build upon prior scholarship. The overarching research question focused on the impact of noncognitive factors programming and intervention on growing student noncognitive factors over time. Numerous research studies have concluded that targeted noncognitive factors can be grown successfully with interventions. These include studies of academic mindsets, goal setting, and providing students with specific learning strategies. The literature also shows that both schoolwide and classroom contexts play a substantial role in student noncognitive factors success. For example, if a teacher verbalizes a belief in a student's ability to grow their academic mindset with effort, that student is more likely to work to change and grow their mindset. Schoolwide contexts also play a valuable role in noncognitive factors success. For example, schools that provide rewards, like brag tags, for students who show positive noncognitive factors growth, are more likely to see students motivated to focus on growing their noncognitive factors. Farrington et al.'s

(2012) five categories of noncognitive factors states that noncognitive factors have an impact on other noncognitive factors. For example, having a positive mindset leads to higher levels of perseverance and a propensity for attempting positive learning strategies, which in turn increases other academic behaviors, thus positively impacting academic performance. These behaviors are also reciprocal in nature, as successful academic performance leads to a growth in appropriate academic mindsets. At River Valley, students who self-assess and set goals see that their effort can lead to growth. This, in turn, can create more positive academic behaviors and better academic performance. Research has also found that goal setting leads to intrinsic motivation. Students who self-assess and set goals for their learning take ownership over that learning and are more likely to try different beneficial learning strategies to find success. Numerous participants in this research study shared that student self-evaluation and goal setting led to greater ownership and motivation.

A Long, Steady Process: Recommendations

- Provide students with earlier opportunities to self-assess their noncognitive factors growth using an age appropriate rubric or reflection sheet.
- Prompt teachers to have more one-on-one self-assessment conversations with students.
- Use self-assessment and conversations to drive goal setting around noncognitive factors growth.

Teachers and staff believe that this program is successful, but even successful endeavors can always be improved upon. The first recommendation for improving this program is to provide students with earlier opportunities to self-assess their noncognitive factors growth. This can be done by adapting the rubric to using more kid-friendly language, using smiley, straight, or sad faces instead of a numeric rating system. It can also be done by focusing on one indicator at a time in the lower grades. The earlier that students begin thinking about their learning, the earlier they begin to take ownership of their growth. Another aspect of this expanded self-assessment would be having teachers conduct more one-on-one conversations with students. Having students self-evaluate first, followed up by reflective conversations, can lead to increased growth or greater opportunities for self-driven goal setting.

Implications for Practice—Recommendations

- Schoolwide Recommendations.
- Classroom Recommendations.
- Recommendations Beyond the Elementary School.

The following recommendations in relation to noncognitive factors programming are centered around useful practices that River Valley Elementary engages in and needs to continue as well as areas in which it can improve its programming. This list includes schoolwide recommendations, recommendations for best practices, and recommendations for pushing to extend this programming beyond the elementary school level to all middle schools and high schools that River Valley's feeds into.

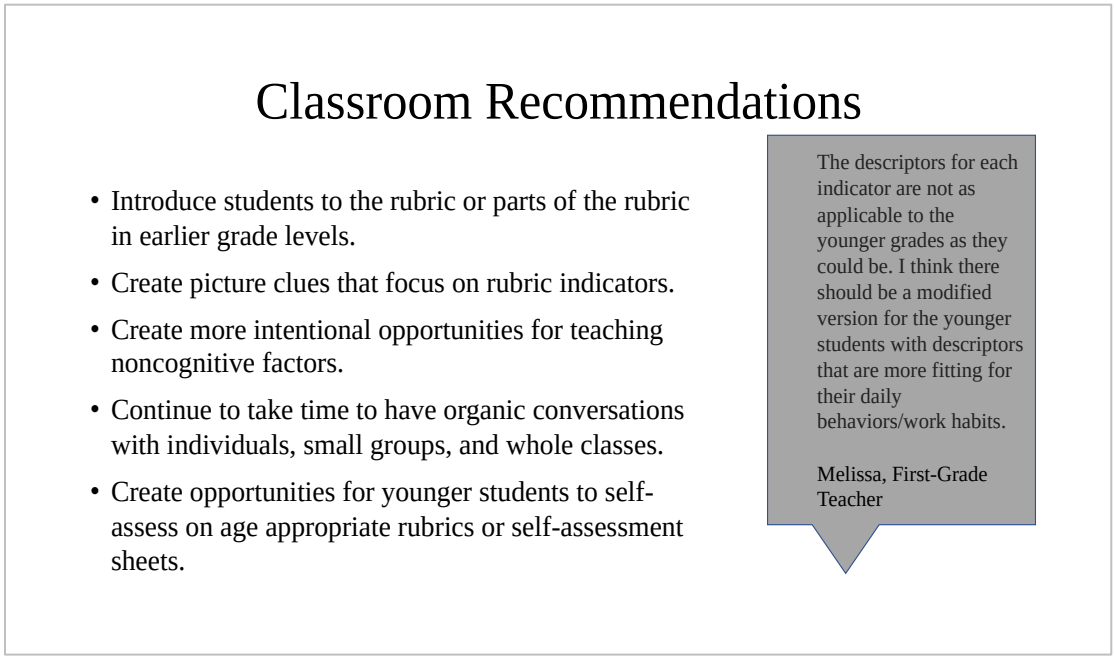
Schoolwide Recommendations

- Provide noncognitive factors training to new teachers and staff.
- Provide parent training.
- Continue supporting noncognitive factors growth through anchoring meetings, symbolic messaging, motivators, and one-on-one student conversations.

> I have kids in my class, and they are fourth graders here; they have a big stack of brag tags on their backpacks. You know, they will freak out if they lose them. So, it's obviously made an impact on them.
>
> Justin, Fourth-Grade Teacher

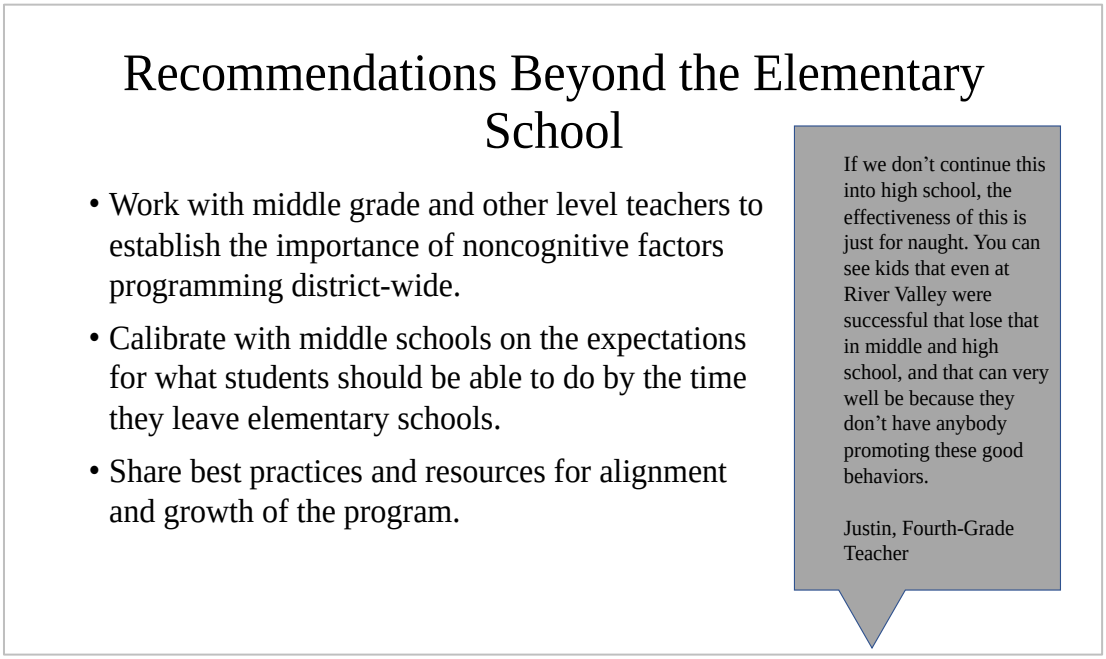
River Valley's noncognitive factors programming has ultimately been successful due to the schoolwide practices that are in place. The expectations of the administrative team are mostly clear, and the principals support this programming through multiple avenues, including anchoring conversations, having one-on-one student conversations, providing extrinsic motivators, and displaying symbolic signage. One area of improvement that could be made is instituting a noncognitive factors training for new teachers and staff. Since the implementation of the program approximately five years ago, new staff members have been hired, but they have received little training. Training could be included as a part of new teacher orientation. Another aspect that could be improved is implementing parent training. This could be something that occurs face-to-face, it could be a recorded presentation, or it could be a self-guided training. Training parents about the rubric indicators, how they are implemented, and what is emphasized at particular grade levels could be beneficial for parent understanding. There are many great schoolwide practices in place, so it is recommended that the school continue the

following: beginning-of-the-year anchoring meetings to explain noncognitive factors; schoolwide motivators like brag tags, brag tag assemblies, and student-of-the-month awards; and holding one-on-one conversations with students. All those aspects have a great impact on student noncognitive factors growth.



River Valley Elementary teachers currently utilize a handful of best practices for teaching noncognitive factors. This includes organic opportunities (e.g., conversations, as situations present themselves) and intentional opportunities, such as creating situations that require perseverance, using storybook characters to model characteristics, having intentional discussions around at-home practices, and others. Areas of possible growth include seeking opportunities to introduce students to the rubric, parts of the rubric, or a modified rubric at earlier grade levels. This would create more opportunities for self-reflections, self-assessment, self-awareness, and potential growth. The second recommendation is the creation of picture clue posters that can be used with younger children in classrooms as anchor charts to help establish baseline expected behaviors. These picture clues can be posted in various locations around the classroom and focus on certain indicators on the rubric. Another recommendation is to use more intentional opportunities for teaching noncognitive factors. If teachers value the impact of this

program, they must seek more specific, timely opportunities to teach noncognitive factors growth.

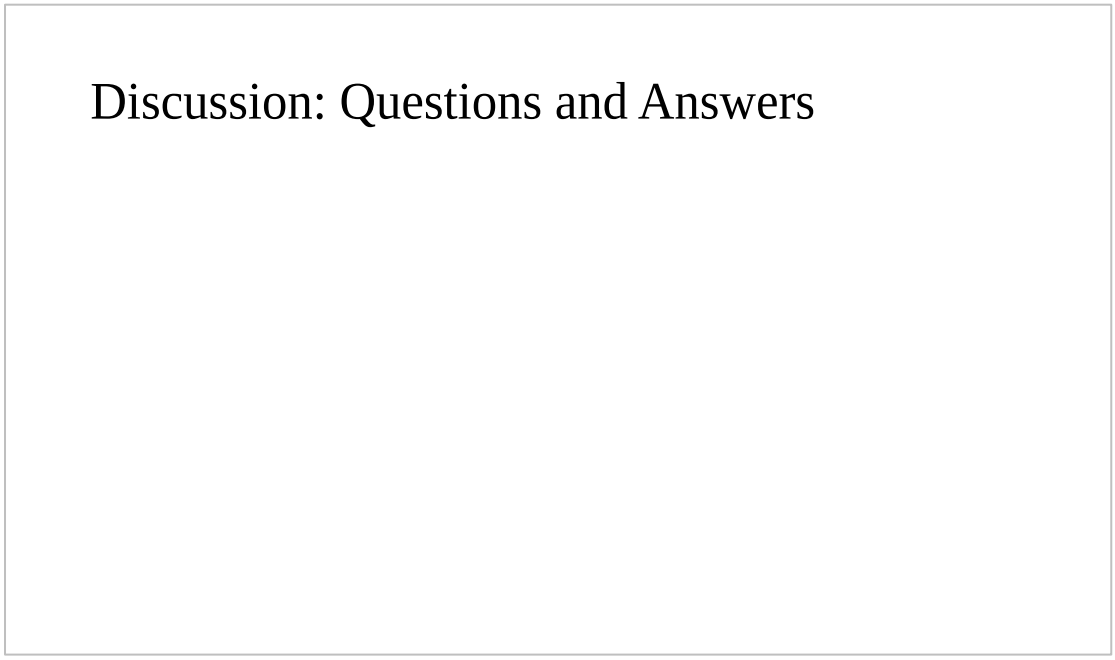


The final set of recommendations focuses not on River Valley internally but on how River Valley can help the schools that they feed into to establish noncognitive factors programming in those schools, thereby fostering student success long term. These include to

1. Work with schools that it feeds into to establish the impact and importance of noncognitive programming on student success.

2. Calibrate with middle schools to determine the expectations for the ideal behaviors students should displaying by the time they leave elementary school.

3. Share best practices and resources with their middle school, junior high, and high school counterparts to help them establish noncognitive factors programming in their classrooms.



I would be happy to answer any questions that you may have or clarify any points.

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SECTION FIVE

Contribution to Scholarship

Target Journal

The target journal for publication is *Educational Leadership,* published by the Association for Supervision and Curriculum Development (ASCD), located in Alexandria, Virginia. *Educational Leadership* is the award-winning flagship magazine of ASCD, with a distinctive niche in the world of education publishing. Its readers are educators from all levels, preK-12, and from many different disciplines and job positions—teachers, coaches, principals, superintendents, professors, and other leaders in education (ASCD, n.d.).

Part of the rationale for writing for *Educational Leadership* is that it "is primarily written by educators for educators" (ASCD, n.d.). This means that many of the publications come from practicing educators, not solely from researchers. Approximately 25% of *Educational Leadership's* published articles come from unsolicited entries (ASCD, n.d.). Additionally, with its "total circulation of more than 135,000…*Educational Leadership* has great reach and influence among educators" (ASCD, n.d.). This journal covers a wide range of educational topics, including practices for improving learning. *Educational Leadership* publishes articles on the topics of preK-12 educational issues, including curriculum, instruction, supervision, and leadership (ASCD, n.d.).

Plan for Submission

ASCD publishes nine issues per year (ASCD, n.d.). Each publication focuses on a particular theme within education. Examples of upcoming themes include "Centering

Thinking and Discussion Skills," "Social Justice in Schools," and "Deepening Learning with Technology." The more appropriate an article is for a theme issue, the more likely it will be published (ASCD, n.d.). *Educational Leadership* articles are generally between 2,500 and 3,000 words. Articles that exceed 3,000 words have a lower chance of acceptance (ASCD, n.d.). "Articles should contain fresh information, be research-based, and give concrete guidance that school leaders and educators can use to improve their practice. Authentic examples from classroom or school experiences are appreciated" (ASCD, n.d.). According to *Educational Leadership,* some of the qualities that they look for in a submission are as follows:

> Nuanced and clear descriptions of evidence-based solutions to current problems in education…Authentic examples or experiences from work in schools… Program descriptions (school, district, or state) that bring school improvement initiatives to life…Practical instructional or school leadership examples that illustrate key points…An emphasis on explaining and interpreting research results rather than on methodology…Personal stories of research or school-improvement initiatives… An emphasis on whole-child education and students with diverse needs.

I have chosen to submit my journal article to *Educational Leadership* because of their focus on authentic examples from the classroom and school as well as their mission to provide guidance that educators can implement in their classrooms. I plan to submit my article by the June 1, 2023, deadline to be considered for the November 2023 themed issue that focuses on "The Challenge of Challenging Behaviors." After I have

successfully defended my dissertation, I will submit my journal-ready publication on the *Educational Leadership* submission page at: https://elmagazine.submittable.com/submit.

Developing that John Wayne Mentality: Classroom Best Practices for Fostering and Supporting Student Noncognitive Factors in Elementary-Age Students: The Results of a Qualitative Doctoral Case Study

Abstract

Noncognitive factors, such as persevering, having grit and self-control, using metacognition and setting goals, and exhibiting a growth mindset, are considered intrapersonal characteristics necessary for lifelong success both in and out of school. However, most U.S. elementary schools do not concentrate specifically on developing most noncognitive factors and may spend less time on such development than in the past. This decreased focus simultaneously stems from and has contributed to a lack of understanding of effective practices for growing individual student noncognitive factors in the classroom setting and lower levels of academic achievement.

This qualitative case study sought to understand educators' perceptions of the impact of schoolwide and regular classroom noncognitive factors interventions on growing student noncognitive factors over time at one U.S. Midwest elementary school. Through surveys, interviews, and focus groups, teachers and other certified staff members shared their experiences growing these factors. The study produced the overarching theme that this development was a long, steady, cumulative process and also found that noncognitive factors interventions were impactful at growing noncognitive factors, giving students ownership over their growth. Some best practices include having the principals and teachers engage in conversations with students about their noncognitive factors, including scores about noncognitive factors on report cards, schoolwide motivators (e.g., brag tags and student-of-the-month awards). Recommendations to improve programming include creating more child-friendly rubrics

with pictures for younger students, training parents and new teachers about the rubric, and further developing the program by extending it to middle school and beyond.

Keywords: Elementary Education, Behaviors, Academic Achievement, Self-Evaluation, Rubrics

Introduction

How do we provide our students with skills that help them to become better learners, better able to face difficult challenges, and prepare them for life beyond school? During the 2017-2018 school year, River Valley Elementary School[1], a K-5 school with approximately 490 students in a semi-suburban area in the U.S. Midwest, piloted a noncognitive factors intervention program known as "grit." Despite roadblocks caused by the COVID pandemic, the pilot developed into a schoolwide program that continues to enhance students' academic perseverance. Rather than use Duckworth et al.'s (2007) definition of grit as "passion and perseverance for long term goals" (p. 1087), River Valley's grit programming focuses on persistence in overcoming immediate challenges by concentrating on the four noncognitive factors in their school's Grit Score Rubric (also known as the Noncognitive Factors Rubric): student engagement, responsibility, collaboration, and independent work. Each category is further subdivided into descriptors that explain behaviors that demonstrate student progress, so that both students and teachers can score student growth in each category on a 4-point scale. These quarterly scores have been added to report cards, providing feedback for students and their parents. However, the Grit Score Rubric is not at the heart of noncognitive factors growth at River Valley. Instead, it serves primarily as a guidepost for program implementation, where conversations between teachers, support staff, and individual talks between the principals and every student help students to grow their noncognitive factors.

[1] pseudonym

What Are Noncognitive Factors and Why Are They Important to Student Success?

As a former high school teacher and assistant principal, and as a current elementary school principal, I have seen firsthand the value that noncognitive factors play in student academic success. My interest in this topic dates from nearly seven years ago, when I first sought to increase the positive academic behaviors that many students lacked.

Noncognitive factors are an overarching term for a wide range of attributes related to personality, work ethic, interpersonal relationships, mindset, and determination (Dee & West, 2011; Duckworth & Yeager, 2015; Egalite et al., 2016; Farrington et al., 2012; Gutman & Schoon, 2013). They are considered critical intrapersonal aspects necessary for success in school, career, and life (Borghans et al., 2008; Bowles et al., 2001; Conley, 2007; Credé & Kuncel, 2008; Duckworth et al., 2007; Garcia, 2014; Geiser & Santelices, 2007; Gutman & Schoon, 2013; Heckman et al., 2006; Lleras, 2008; Nagaoka et al., 2013, 2015; Savitz-Romer & Rowan-Kenyon, 2020; Sparkman et al., 2012; West, 2016).

Elementary schools in the United States are tasked with simultaneously growing noncognitive factors while providing students with a general education that prepares them for later schooling and career readiness. It makes sense to step back and focus on the skills and attributes necessary to develop high-quality, self-aware learners. These students have the mindset and skills to overcome difficult challenges, to establish short- and long-term goals, and to adjust their behaviors when situations are challenging.

Best Classroom Practices

To learn about best classroom practices to help students grow their noncognitive factors as an aspect of regular classroom instruction, I asked the experts—the teachers at River Valley Elementary—who work with students and noncognitive factors growth

daily. The best practices identified below were compiled as part of a qualitative doctoral case study that focused on noncognitive factors growth at River Valley. Eighteen certified teachers and staff members participated in the study. Data were collected through surveys, one-on-one interviews, and focus groups.

The Rubric and its Indicators as Guideposts

Most of the learning around noncognitive factors occurred loosely coupled to the four indicators found on the Grit Score Rubric. For the majority of student noncognitive factors growth, teachers saw the rubric as a guidepost that provided intentional focus on several skills. The majority of noncognitive factors growth occurred independent of, but supported by the rubric, as teacher adapted the skills on the rubric to help students develop these skills organically or intentionally through a variety of methods. Pearl, a first-grade teacher shared:

> For younger kids, there is a developmental process of picking apart the noncognitive factors rubric and saying, what does student engagement look like? "What does that mean when you hear that word? I am going to set a timer for 5 minutes, and we will come back to talk about it." Sometimes, they are masters at it; sometimes, we might have to stop the timer at 2 minutes….They are still developing this skill, so I show them where that fits in the rubric and as a valuable tool for guiding conversations with students and parents.

For younger children especially, the rubric serves as a benchmark for teachers to discuss and calibrate their expectations, as Hillary explained:

> In kindergarten, we [teachers] get together and talk about how the rubric applies to our kiddos. We talk about the rubric's expectations versus what we see. The

> rubric is really written for older students, so we have to adapt and apply it to kindergarten kiddos.

Organic Opportunities

Teachers at all grade levels looked for organic opportunities to teach about noncognitive factors. This could be an instance of a breakdown in student collaboration, a model example of perseverance, or the teacher verbalizing their metacognition as they talked students through an example of self-assessment. These instances often occurred conversationally through one-on-one, small group, or whole-class conversations that focused on growth. Justin, a fourth-grade teacher, explained the impact of conversations and teacher modeling: "The one best practice in my classroom is, generally, daily conversations to let the kids know why those character traits will give them success in life. Modeling the expected behaviors, too, as their educator." Hillary explained that organic opportunities often arise and provided examples of topics that lead to conversation in the kindergarten classroom:

> Do they pay attention to me when I read? Are they spinning around? Do they hang their backpack up? Can they work with other students? Can they work independently for 5 minutes? You adapt the rubric indicators to meet what they are really doing in class. Then, you talk about it with them….Reminders,…lots of reminders in kindergarten about expected behaviors.

Intentional Practices

Intentional practices are preplanned learning experiences that challenge students to grow their noncognitive factors. Examples could be pushing students to persevere through difficult challenges, providing students with expectations and modeling how to

collaborate with their peers, the use of storybook characters and themes (such as *The Little Engine That Could*) to reinforce positive character traits, or through student self-scoring using the Noncognitive Factors Rubric. Kelly, a second-grade teacher, discussed a conversation with her students about taking ownership of their work habits at home:

> "What if your parents don't ask you to get your folder out and practice your trick words? Do you just not practice them?"
>
> They were like, "No, you can get them out and do them yourself."
>
> "What if you don't have paper or pencil? Could you write them with your finger?"
>
> "You can think of ways to practice, and it doesn't have to be your parents asking you to practice."

Karen, a fifth-grade teacher, explained the intentional practice of having her students nominate their peers for student-of-the-month recognition. She emphasizes that "it's not a popularity contest. It's 'How did they show good behaviors. Be specific. What did they do?' So, they see an example of someone who is modeling good noncognitive behaviors."

Hillary, a kindergarten teacher, told of how she intentionally challenges her students to persevere through difficult challenges to help them increase their fine motor skills:

> I make them tear little pieces of paper, and we make designs out if it….[Just] like [when] coloring, they complain about how their fingers hurt. They ask to use scissors….I always say, "No, we are going to use our little fingers."

Understanding the Big Picture

Classroom teachers must understand where their classroom and their noncognitive factors interventions fit into the whole-school approach to growing these behaviors. Many aspects of noncognitive factors growth require mature cognition and age-appropriate development, so a kindergarten student cannot be asked to adjust their academic mindset. Hillary, a kindergarten teacher, understood how her efforts fit into the big picture:

> It starts young, and they keep progressing through all the grades, and eventually, the goal is that they will be very familiar with grit and their noncognitive factors. They will understand what those behaviors are, how to grow them, and how to apply them to learning.

Karen explained that she sees the noncognitive factors work of prior grades manifest in fifth grade: “My students know grit; they understand noncognitive factors. By the time they get to fifth grade, they know what they need to do to work on improving their noncognitive factors.”

Much of this long-term approach ties back to the fact that at this elementary school, there is a common rubric, shared expectations, and a common language for growing noncognitive factors. Brenda, the reading specialist, explained how the common vocabulary allows non-classroom staff, such as herself, to help students overcome difficult challenges:

> You can revisit that talk about grit, and it helps push them forward and persevere. If it wasn’t something that we had focused on as a school, that may not be something that you could even bring up because you would have to teach them

> what it is first….Because we talk about it schoolwide, kids know it, understand it, and you can use the vocabulary to help them persevere.

Justin, a fourth-grade teacher, shared why their noncognitive factors program is so critical for student success:

> Many kids just give up when something's difficult. Using the terminology of grit…I don't know that you'd have the same weight if you called it "noncognitive factors"….In our community, these kids come from poor homes. That's what grit is; it shows toughness. Tough is not giving up; it's that John Wayne mentality.

The Pinnacle: Self-Assessment

Self-assessment is a formative assessment strategy (Black & Wiliam, 1998; Fluckiger et al., 2010; Sadler, 1998; Stiggins, 2008) that uses a goal-oriented process to allow learners to compare their progress to clear external benchmarks (McMillan & Hearn, 2008). Self-assessment requires students to engage in deep metacognition to understand where they are in the learning process and what changes they need to make to improve their understanding (Flavell, 1979; Hacker et al., 2009; Zimmerman & Schunk, 1989). Obtaining feedback during the learning process leads to more substantial achievement, increased student motivation and persistence, and positive mindsets towards learning (Black & Wiliam, 1998; Rolheiser & Ross, 2001).

According to teachers at River Valley, self-assessment can be highly impactful if used at an appropriate age. Justin, a fourth-grade teacher, explained the benefit of having students self-score using the Noncognitive Factors Rubric:

> Once we got to the third or fourth quarter, I was sitting down with kids prior to parent-teacher conferences. I was like, "Alright, what do you think you got in student engagement?"
>
> And they would be like, "Oh, I think I got a 3."
>
> I would ask them, "Why not a 4?"
>
> That put the weight back on their shoulders; it put the responsibility in their corner. I use it as a way of personally motivating kids by getting them to accept more responsibility. And then, I think that helps them to mature a little bit.

Justin added:

> Those adult-like conversations, it sets them up for success later…when they talk to bosses…[about] why they are struggling….How many adults can't hear the things that they did wrong or what they need to work on?…[So we need to be] developing that mindset in these kids at a young age.

Karen, a fifth-grade teacher, explained how self-assessment conversations also helped the teachers to provide students with supports that they needed:

> It's good for kids to self-reflect…but it also helps us…that we are giving them the tools...to be engaged, collaborate, and be responsible, especially in fifth grade, getting ready for middle school.

The Link Between the Grit Program and Noncognitive Factors Growth

The Noncognitive Factors Rubric also helps to explain the *why* behind the academic grades students are earning, as Brenda, the reading specialist, explained:

> Having that rubric right there by you during parent-teacher conferences is important because you are able to say "This is the score they have on the report

> card, but this is how hard they are trying." It goes hand-in-hand. Being able to have that in your back pocket helps when conversations are tough. I don't have a lot of easy parent-teacher conferences because my students all struggle. But being able to say, "Yeah, but they are working hard" is a game changer.

Additionally, educators can connect noncognitive factors programming school-wide, as the counselor Sammy did during her talk with a student panicking about math:

> We talked about his mindset, we talked about perseverance and giving his best in certain situations, but then, specifically, I told him that he had a fixed mindset. I asked him, "How can we change this to a growth mindset?" By the end of the conversation, he was relaxed and able to go back to class.

Justin, a fourth-grade teacher, found such great value in River Valley's noncognitive factors programming that he believes it should be expanded to middle and high schools:

> If we don't continue this into high school, the effectiveness of this is just for naught. You can see kids that even at River Valley were successful that lose that in middle and high school, and that can very well be because they don't have anybody promoting these good behaviors.

Conclusions

The schoolwide practices with the most significant impact on student noncognitive factors growth are

- Having a common schoolwide vocabulary for noncognitive factors.
- Schoolwide messaging and expectations.

- Schoolwide motivators, such as student-of-the-month awards and brag tags (dog-tag-like awards given for displaying noncognitive growth, such as “caught being nice”).
- Professional learning community calibrations around rubric expectations, including rubric scores on reports cards.
- The principal as the leader and supporter of the schoolwide program.

This study also detailed recommendations, which included providing noncognitive factors professional development to novice teachers and staff as well as training for parents, creating picture clues that focus on rubric indicators for younger students, working with middle-grade teachers to share best practices and resources for alignment and growth of the program and to calibrate the expectations for students graduating from elementary school.

Ultimately, there is great promise in the impact of noncognitive factors development on student academic achievement. The key themes that run throughout these best practices are the collective efficacy for students, setting high expectations, creating strong relationships with students, and guiding them to successful outcomes. Kyla, the assistant principal, summarized the impact that noncognitive factors programming has on students in their school:

> “Grit” is vital as a schoolwide language. Sometimes teachers implement things as outliers, but the term “grit” speaks to students in the cafeteria, PE, classrooms, my office, the counselor’s office. Having a schoolwide model for these kiddos holds everyone accountable for having a good work ethic and persevering. Having that common school language is vital.

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SECTION SIX

Scholarly Practitioner Reflection

It was the 2018-2019 school year that marked my 13th year in education and my first outside of a social studies classroom. I was a first-year assistant principal, and I knew that I needed to further my education if I wanted to maintain my certification and grow as a leader. So, I inquired into a handful of educational specialist and doctoral programs. After researching a few in-person and virtual programs in and around Missouri, one program caught my eye. It was the University of Missouri Statewide Cooperative EdD Program. I have a few acquaintances who had graduated through the program. The experiences that they shared gave me the sense that the program was challenging, but I really had no clue. Ultimately, the draw of a doctorate from a top-notch university made it a simple decision for me. I made the choice to "go all the way" and shoot for the doctoral degree. I could have chosen an easier program. My goodness, if the application requirements and interview process were not enough of a glimpse, I would surely find out soon the extensive effort this program would take. But I knew that if I could stick it out, I would earn a degree that not only carries great weight from a distinguished research university, but I would also come away with real knowledge and skills that would allow me to flourish as a leader. I chose wisely.

Two years of coursework, another two years of research, thousands of pages of manuscripts read, hundreds of pages written, and countless lifelong relationships forged, now I am at the end of my journey. Or, this is what I thought would be the end when I first began this program. Actually, this is truly just the beginning. This program has given me so much. I am a more aware leader. I have a better grasp of my strengths and

weaknesses. I have a better understanding of how to analyze organizations and programs. I understand the importance of ethical research and decision-making. I value diversity of thought, experiences, and skills. Above all else, this program has given me the confidence to know that I am a good leader and that I belong in a leadership role. Before taking this journey, I had my doubts. This program, this learning, these experiences, and my self-awareness have quashed these doubts. As I said earlier, I chose wisely. I am lucky, grateful, proud, and humble. I am (almost) a doctor.

The Influence of the Dissertation on My Practice as an Educational Leader

What a scary endeavor! Going into this doctoral program, every member of Cohort 12 knew that we would have to write a culminating paper, a dissertation. We all had at least a basic understanding of the dissertation process, some probably more than others. Hundreds of pages, months of research, knowing that it was a rigorous process, but saying, "Sure, I will do it." That is a huge commitment that one must accept before applying to a doctoral program. There is a reason why less than 4.5% of the U.S. population holds a doctoral degree (America Counts Staff, 2021). It is challenging, it is daunting, it is scary. It requires persistence, a tremendous amount of time, and major sacrifices. As former U.S. President Theodore Roosevelt (1899) stated, "It is hard to fail, but it is worse to never have tried to succeed" (p. 1).

Yes, it *was* challenging, it *was* difficult, it *was* scary. However, the process changed me forever. What started as a daunting task became a hobby for me. I looked for any opportunity to write. I would stay up late after my family was asleep. I would wake up early to research. I would lay awake at night unable to sleep because I would think

about the next steps of my research study. Luckily, my coursework helped to prepare me for this process.

The most impactful classes that I participated in focused on two key concepts that helped me in my leadership abilities and prepared me to complete this dissertation. The most impactful class focused on leadership. I shadowed the captain at my local sheriff's department and learned how relationships and conversations were at the heart of his leadership. I also completed a leadership study on an area school superintendent, through the lens of servant leadership.

The second most impactful course focused on program evaluation. The program evaluation that my team completed was qualitative in nature and gave me the experience necessary for interviewing, conducting surveys, coding and theming transcripts, and synthesizing findings through the words of the participants. Although I could name numerous other beneficial courses or experiences, these two have had the most profound impact on my leadership abilities and preparation for completing this dissertation.

I also went through some life changes during the dissertation process, which increased its difficulty. My wife and I welcomed our second child into the world as I was formulating the first three chapters. This placed additional strains on my time, and I had to become a better thinker and more efficient writer. I also changed jobs. I became a head principal of an elementary school during the 2022-2023 school year. This move challenged me tremendously. The prior 16 years of my career had been in the high school setting, all at the same school. Here I was at a new school, with a new role, and at a new level of education. This move tested me, but this doctoral program and the dissertation process made it all possible.

The dissertation process has made me a better educational leader. First, it forced me to do the work. Sometimes the work that I did and the thinking that happened led me nowhere. I researched, I thought, and sometimes my ideas did not work out. However, I did not quit. I thought harder, I adjusted my plan, I researched a different concept, and I kept working. That was the first principle that the dissertation process taught me.

Second, the dissertation process required me to expand my knowledge. I began this study thinking that I knew a great deal about the topic of noncognitive factors. However, I had no clue! I knew lots of bits and pieces, but I did not know how all the concepts tied together and how they impacted each other, either positively or negatively. Dissertation research taught me that it is not good enough to find one or two sources; I must dig deep to truly understand a topic (Galvan, 2013).

Third, the dissertation process has taught me the importance of thinking 10 steps ahead. When planning a research study, a program, or an initiative, it is vital to think through all the variables and possible outcomes. It is crucial to think logistically about how one step impacts all the steps that occur afterwards (Creswell & Creswell, 2018). This process has forced me to become more thoughtful, more visionary, and to be more intentional in my planning process.

Finally, the dissertation process has driven home the need for stronger relationships and communication. To complete a qualitative study requires the forging of many relationships. I had to be honest, transparent, humble, and persistent enough to gain participants' trust (Seidman, 2013). Once these relationships have been established, I had to work equally hard to fulfill promises and to make participants feel valued. The most critical relationship, however, was that of the researcher and the dissertation advisor.

When I say that I am lucky and blessed to have landed my advisor, that is a vast understatement. Dr. Ingraham guided me through this process by providing me with specific feedback, motivation, and support to grow as a person and a researcher. I am forever grateful for her and to her.

Each of these four aspects have made a better educational leader. I am not afraid of hard work, I am willing to seek new learning experiences when I do not know something, I am a more visionary thinker and planner, and I value relationships as the glue that holds any educational organization together. I have grown in each of these areas as a result of completing this dissertation process.

The Influence of the Dissertation Process on Me as a Scholar

Like most educators, I have always had an interest in learning. When I was a young boy, I loved to read books about geography, history, and sports. I would spend hours pouring over books about state facts or looking at our handed-down encyclopedia set from the late 1960s. I had a fascination with learning new things. I wanted to understand more about the world around me and how things as we know them came to be. This love of learning has always been an essential part of me and has greatly influenced my choice to become a teacher, and eventually, a principal.

As a junior in high school, we were tasked with making career choices that would impact the rest of our lives. I loved history, I loved sports, so why not become a history teacher and coach? That was how I chose my career. I went to community college, after which I transferred to a four-year university. I earned average grades in college because I did not take it seriously. I was immature and was busy chasing the trappings of early adulthood. I got very lucky and landed a student teaching spot in a school that eventually

hired me as a history teacher and coach. What happened as I matured? I began to realize that my interests were different than what I thought in high school. Sure, I loved history and sports; however, I quickly realized that I had begun to value the impact that I could have on young people. Eventually, that love for leading pushed me into taking on teacher-leadership roles, first as a professional development leader, then as the leader of the school's teacher-leadership team. I found that I had a passion for leading others through impactful changes—changes that would help them to become better people and better educators. That's where my passion lies, in helping others to reach their full potential by maximizing their strengths. There is a reason why, according to CliftonStrengths (Gallup, 2023), my top three strengths are *context, learner,* and *maximizer.* To summarize, I have always had this love for learning, but the dissertation process has helped me to grow tremendously as a scholar.

First, as a result of the dissertation process, I have become a better scholar because I can now better synthesize information. As a researcher, I dove deep into numerous studies that touched on aspects of my topic. As a researcher, I had to be good at pulling pieces of information out of the literature and combining them with other ideas to formulate new knowledge (Merriam & Tisdell, 2016). This process has helped me to become a better synthesizer of knowledge. I can sift through reports and data from multiple sources and can hone in on a handful of key takeaways. I will use this information to lead change in my school.

Second, the dissertation process has allowed me to grow as a researcher. I am better able to navigate scholarly databases, use keywords, look through references for additional sources of knowledge, and find sources that lend themselves optimally to the

topic I am studying. This will benefit me greatly as an educational leader as I evaluate my school's programs and resources. By looking at our internal data and the findings of research studies, I am better prepared to make decisions about programs and resources that impact our students' learning.

Finally, the dissertation process has helped to grow my abilities as a scholar by helping me to more clearly understand best research practices. Planning my research methodology and guiding a study to its conclusion is a daunting endeavor. But as I dove deep into this study and learned about the participants' experiences, I truly began to understand the phenomenon (Merriam & Tisdell, 2016). The most exciting part of the process was when I uncovered new information and it prompted new questions, new areas to discover. That is scholarship—knowing that there are endless avenues for learning, and knowing that I can contribute to this knowledge.

The dissertation process has helped me to become a better learner, a clearer thinker, and a better synthesizer of information. I am better able to evaluate programs and resources, and I know that learning truly has limitless paths.

Conclusion

What started as a journey to ensure my certification did not lapse evolved into a life-altering experience for me. Learning as part of the Missouri Statewide Cooperative EdD Program and this dissertation process have helped me to become a more confident, knowledgeable educational leader and scholar. I understand my strengths, and I am not afraid of my weaknesses holding me back. This endeavor is something that most people never undertake, and I have nearly completed it! I have the confidence of knowing that I have the persistence, work ethic, patience, knowledge, and skills to do something that

nearly 95% of the population has not done—earn a doctoral degree. No matter what, I have pride in knowing that what I accomplished is no small task. Those who have not gone through this journey do not understand all that it takes.

There is a piece of me that is nervous about what I will do with all of my free time! I will spend more time with my daughters, I will resume my homebrewing hobby, I might read a book. Heck, maybe I will begin a new research study and write another journal article. Who knows what the future holds? But I do know that I will be better positioned to thrive no matter what professional or personal challenges life throws my way because of the learning that I take away from this program. Thank you, Mizzou.

SECTION SEVEN

Additional Findings

The purpose of this qualitative case study was to understand the impact of schoolwide noncognitive factors programming and interventions on student noncognitive factor growth, according to the classroom teachers and certified staff members who work at River Valley Elementary. In the following sections, the findings for each of the research questions are answered. Quotations from participants are included within the results to better understand their experiences and to support the case study findings.

Interview Findings

Eighteen individuals participated in this study. The survey was completed by 17 participants and collected a wide variety of qualitative data. These data included perceptions of effectiveness, best practices, impacts on academic mindsets and perseverance, and potential aspects to target for program improvement. After the survey results were collected and the data were coded and themed, typical case sampling was employed to invite participants to take part in one-on-one interviews. Five individuals participated in these interviews, including teachers from grades K-2 and 4-5. No teachers from grade 3 consented to participate in the interview round of the study. Each interview was individually coded and themed. The results were shared with participants for member checking and were then used to adapt questions for the final round of the study––focus groups. Two focus groups were held: one with teacher participants and one with peripheral staff members. Teacher participants were those who directly taught or intervened with noncognitive factors in their classroom, while peripheral staff members did not directly teach noncognitive factors but saw the impact from a schoolwide

perspective. Four of the five teachers who participated in the one-on-one interviews also participated in the teacher focus group. Four staff members were invited to participate in the peripheral staff focus group, including the lead counselor, reading specialist, math interventionist, and assistant principal.

Table 4

Research Study Participants and Methods of Participation

Pseudonym	Position	Experience in Current Role	Participation
Hillary	Kindergarten Teacher	13-19 years	Survey Interview Teacher Focus Group
Janet	Kindergarten Teacher	20+ years	Survey
Pearl	First-Grade Teacher	6-12 years	Survey Interview Teacher Focus Group
Melissa	First-Grade Teacher	6-12 years	Survey
Karla	Second-Grade Teacher	20+ years	Survey
Kelly	Second-Grade Teacher	20+ years	Survey Interview
Jessy	Second-Grade Teacher	20+ years	Survey
Tessa	Second-Grade Teacher	13-19 years	Survey

Pseudonym	Position	Experience in Current Role	Participation
Rebecca	Third-Grade Teacher	13-19 years	Survey
Justin	Fourth-Grade Teacher	13-19 years	Survey Interview Teacher Focus Group
Susan	Fourth-Grade Teacher	13-19 years	Survey
Karen	Fifth-Grade Teacher	6-12 years	Survey Interview Teacher Focus Group
Brenda	Reading Specialist	6-12 years	Survey Peripheral Staff Focus Group
Sammy	Guidance Counselor	0-5 years	Survey Peripheral Staff Focus Group
Mary	Speech-Language Pathologist (SLP)	0-5 years	Survey
Amanda	Special Education (SPED) Teacher	0-5 years	Survey
Kandy	Math Interventionist	6-12 years	Peripheral Staff Focus Group
Kyla	Assistant Principal	6-12 years	Survey Peripheral Staff Focus Group

Overarching Question

The overarching question guiding this study was "According to elementary educators, what impact do schoolwide noncognitive factors programming and interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time?"

RQ 1 Results: How do elementary school educators perceive the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors' growth?

Research Question 1 examined the impact of the Noncognitive Factors Rubric in guiding student self-reflection, self-assessment, and self-awareness related to their noncognitive factors growth. Ultimately, students' abilities to self-reflect, self-assess, and be self-aware were age/development dependent. The results of RQ1 are divided into two distinct domains: younger students in grades kindergarten through second grade and older students in fourth and fifth grades. This study was unable to acquire adequate participation from third-grade teachers; therefore, the findings for third grade are inconclusive. Significantly, the findings listed for this research question come from teachers who implement this programming with the highest levels of fidelity. According to the survey, eight out 12 respondents to Survey Question 6 noted that they disagreed or strongly disagreed with the following statement "as an aspect of implementation in my classroom, students self-assess their progress on the grit score rubric." This is attributed to the lack of cognitive readiness associated with students in the lower grades [grades K-2], therefore students in the lower grades do not self-assess using the Noncognitive Factors Rubric.

Younger Students: Grades K-2

Self-Reflection. Self-reflection is a process where students think about their behaviors and other noncognitive factors. This process can occur internally or externally through dialogue. In the K-2 classroom, self-reflection occurred through teacher-guided conversations. It nearly always occurred independently of the Noncognitive Factors Rubric and was prompted as learning opportunities arose organically. As teachers saw instances in their classrooms that warranted a conversation, they would often point out, discuss, or model best behavior to individuals, small groups, or the whole class. Kindergarten teacher Hillary discussed how she uses organic conversations to guide self-reflection:

> You have to just get a hold of the behaviors and naturally talk to them. Ask them questions like, "Oh, you can't hang your backpack up. We'll keep working on it so you can keep all of your stuff organized. You won't be able to do it if you don't practice it. Keep at it, I know it's frustrating." So, it just kind of comes in naturally and gets them self-reflecting on their behaviors.

Kelly, a second-grade teacher, shared an example of an organic situation that arose during a recent phonics lesson:

> Today, most of my phonics lesson was, "How can we use perseverance while we are working on our phonics work?" A lot of the kids are just taking the whole word and trying to write it down instead of breaking it up. So, I told them to take the time to look at the charts or the cards, find the part that you need, and write a part at a time.

Self-Assessment. Self-assessment is a process in which students assess their noncognitive factors growth by scoring their behaviors using the four indicators and subsequent descriptors on the Noncognitive Factors Rubric. Self-assessment did not occur at the lower grade levels because the rubric, as written, is not developmentally appropriate. This is especially true for students whose reading skills are just beginning to emerge. Hillary discussed the hurdles for kindergarten students to self-assess using the rubric:

> Yeah, there's no way I could even talk to them about this, even read it [the rubric] because they would be like, "What's that mean?" I mean they don't even know what these words mean. Your higher kiddos might be able to, but I don't see it happening a lot in kindergarten.

Pearl shared her thoughts about the challenges of having first-grade students self-evaluate:

> I would say in first grade, it's probably a little bit harder to do that self-evaluation piece. I think if you were focusing on one area, like responsibility, keeping your supplies organized, and you had a supply check day, and you could be like, "Okay, give me a thumbs up if you think you have all of your supplies and check," or "Give me a sideways thumb if you have some," but you know, doing something like that would be more likely in third and fourth quarter.

However, there is promise in creating and implementing a developmentally appropriate rubric or self-assessment sheet. Teachers discussed the possibility of developing a reflection sheet that could use emojis, pictures, or cartoons as a substitute for numbered scoring on the traditional rubric. This has the potential to make self-

assessment more kid-friendly for younger students. Pearl shared that her daughter's school uses a self-assessment sheet with smiley faces:

> My daughter's teacher started [the] parent-teacher conference with a self-evaluation piece; it had just a few questions on there. It had a smiley face, straight-mouthed face, and a sad face for students to rate themselves. It had questions that were very noncognitive factor-related. Questions like, "How do you get along with others? Do you finish your work?" I thought, oh man, that's a really good idea. So, I do think having something like that in place could hold value for this age level.

Hillary discussed the idea of using picture clues in a similar fashion as an anchor chart to guide behaviors:

> Picture clues, I feel like if you have a lot of pictures, put them up in a lot of different places where you are a lot of the times, like at your small group table or near the carpet for reading time. I feel like if you had like a big posters blown up, you could refer to it a lot.

There is also promise in a rubric that is written to align more closely with the daily behaviors and tasks of younger students. For example, the rubric indicator for "collaboration" is written in a language that describes how collaboration looks for older students. Adjusting the rubric to match expectations more closely for younger students could be a useful adjustment. Melissa, a first-grade teacher, shared some of the issues with using the rubric as written with first grade students:

> The descriptors for each indicator are not as applicable to the younger grades as they could be. I think there should be a modified version for the younger students with descriptors that are more fitting for their daily behaviors/work habits.

Self-Awareness. Self-awareness describes a student's metacognition around their noncognitive abilities. In the lower grade levels, self-awareness is more directly related to the self-reflection process that occurs through organic conversations with teachers. These structured conversations were used by teachers in the lower grades to guide noncognitive factors growth. Self-awareness and metacognition are cognitively advanced tasks that are likely above the developmental abilities of many younger students. Pearl discussed how she uses organic conversations to guide self-reflection and grow self-awareness in first grade:

> For younger kids, there is a developmental process of picking apart the Noncognitive Factors Rubric and saying, "Okay, what does student engagement look like? What does that mean when you hear that word? Well, okay, we're going to work on our work, students. I am going to set a timer for 5 minutes, and we will come back to talk about it." Sometimes they are masters at it; sometimes we might have to stop the timer at 2 minutes. That means they are still developing this skill, so I kind of show them where that fits in the rubric.

Noncognitive Factors and Academic Achievement. Ultimately, a student's noncognitive factors performance has a strong connection to their academic performance. Students who score higher on the Noncognitive Factors Rubric indicators are more likely to have higher grades and better academic outcomes. Kelly explained the connection between Noncognitive Factors Rubric scores and student grades. She shared,

"Noncognitive behavior, or lack of this behavior, is directly affecting their scores" [standards-based grades]. The biggest benefit of rubric scoring is to explain to parents "the why" behind their child's academic outcomes. Scores on the Noncognitive Factors Rubric are connected to each quarterly report card. These conversations around noncognitive factors versus academic outcomes occur at parent-teacher conferences. Pearl explained the impact that the rubric can have in helping parents to understand how their students are performing behaviorally and academically:

> I think this rubric really dials in on these things that we want to see, and if we're not seeing those things, then you are not going to see your child get a 4 or a 3 or a 2, and I think that there's not an overwhelming amount of indicators or learning skills. It's pretty focused on four indicators, and those expectations are very detailed. When you say to a parent, "Your child has a 1 or 2 in 'responsibility'." I mean you can go back and point out how many missing items they have had. It just makes it very clear to parents.

Hillary provided an example of the types of in-depth conversations that occur around scored rubrics with parents:

> So, I'll say like, "So, you know they got a 2. That means we're still working on these skills." So I'll just tell the parents this is what they're really struggling with, but we're still going to work on those skills here at school. We're going to use different strategies to get those skills met.

Older Students: Grades 4-5

Self-Reflection. In a similar fashion to students in the lower grades, older students were provided numerous opportunities to self-reflect on their noncognitive

factors. This process occurred internally or externally through dialogue. In fourth- and fifth-grade classrooms, self-reflection also occurred through teacher-guided conversations. The key difference in this age group was that self-reflection incorporated more aspects of and dialogue around the Noncognitive Factors Rubric. And these conversations were also more closely connected to overall academic achievement and student success. Also, as was done in the lower grades, when teachers found instances in their classrooms that warranted a conversation, they would often point out, discuss, or model best behavior to individuals, small groups, or the whole class. Karen, a fifth-grade teacher, shared her belief about the importance of student self-evaluation:

> It's good for kids to self-reflect on what they are doing, but it also helps us teachers to make sure that we are giving them the tools they need to be engaged, collaborate, and be responsible, especially in fifth grade, getting ready for middle school.

Justin, a fourth-grade teacher, shared the benefits of one-on-one conversations for driving self-reflection and instilling a growth mindset:

> Having those adult-like conversations, I mean, it sets them up for success later, you know? I mean when they go talk to bosses, and you know they're telling them why they are struggling at their job. Think about how many adults can't hear the things that they did wrong or what they need to work on. And you're developing that mindset in these kids at a young age.

Self-Assessment and Self-Awareness. In the upper grades, self-assessment occurred at regular intervals throughout the year. Near the conclusion of each quarter, students self-assessed their noncognitive factor outcomes by self-scoring themselves

using the Noncognitive Factors Rubric. Students in grades 4 and 5 had an excellent understanding of the indicators targeted on the rubric in relation to the four noncognitive factors. Karen discussed the end-of-the-quarter self-reflection that she has employed in the past, prior to the advent of COVID:

> For self-evaluation in past years—I can't say I did it this quarter—but I have done it in years past, we typically give students a self-evaluation sheet that includes the noncognitive factors indicators at the end of the quarter before parent-teacher conferences. The questions are specific. They ask about independent work, responsibility, working with others. They set goals for what they can work on going into the next quarter.

Justin discussed the impact that self-evaluation using the Noncognitive Factors Rubric has on goal setting and improvement:

> Once we got to the third or fourth quarter, I was sitting down with kids prior to parent-teacher conferences. I was like, "Alright, what do you think you got in student engagement?" And they would be like, "Oh, I think I got a 3." I would ask them, "Why not a 4?" That put the weight back on their shoulders; it put the responsibility in their corner. I use it as a way of personally motivating kids by getting them to accept more responsibility. And then I think that helps them to mature a little bit.

By the time students reach fourth and fifth grade, they have a better comprehension of what the indicators mean and how to score themselves using the descriptors explained on the rubric. For older students, this process is more developmentally appropriate, as they are better able to understand their metacognition.

Developing students' ability to self-assess is a long process that occurs over multiple years of schooling and discussion around noncognitive factors. Karen explained that what students do and learn about each year builds to eventually allow them to self-assess:

> The focus of grades K-3 is really just to have them get a good understanding of what noncognitive factors are. They have to be broken down into things that they can understand. While it's the same skills, it has to be in terms of what they can understand. By the time they get to fifth grade, they have a very good overall understanding of the expectations of the Noncognitive Factors Rubric.

Self-assessment and self-scoring are used to guide one-on-one growth conversations with teachers and as a means for setting goals for noncognitive factors growth. Jason shared how self-assessment conversations are motivational and push students to set goals for improvement:

> The conversations are super powerful; you can notice the change in kids. It puts that control in the kids' hands because they're then like, "All right, for the third quarter, I want to at least get this noncognitive factors score up to a 3," you know? By the time they get to the final conversation in the fourth quarter, I am like, "Look at your scores; look how much your score has improved. And now look at your grades, too!" Utilizing self-scored student rubrics during parent-teacher conferences could be a powerful next step in creating a greater understanding of student success.

Noncognitive Factors and Academic Achievement. Ultimately, a student's noncognitive factors performance has a strong connection to their academic performance. Students who score higher on the Noncognitive Factors Rubric indicators are more likely

to have higher grades and better academic outcomes. Survey Question 4 asked teachers to rate their level of agreement with the following statement: “The Noncognitive Factors Rubric has helped my/our students to grow as learners and has positively impacted their academic achievement.”. Of the 14 responses to that question, nine agreed, three strongly agreed, one had no opinion, and one respondent disagreed. Most respondents saw a strong connection between noncognitive factors success and academic success.

Older students benefit from rubric scoring in two ways: (1) as described above, self-assessment and self-awareness allow for goal setting and potential noncognitive factors growth, and (2) rubric scoring explains to parents “the why” behind their child’s academic outcomes. Scores on the Noncognitive Factors Rubric are connected to each quarterly report card. These conversations around noncognitive factors versus academic outcomes occur at parent-teacher conferences. By the time their children reach fourth and fifth grade, parents have an excellent understanding of noncognitive factors expectations and are more able to understand what the rubric indicators explain. Karen shared how conversations with fifth-graders’ parents around noncognitive factors scores help to make a stronger connection between school and home:

> Those conversations can make a connection between school and home. If a kiddo is not doing things here, I ask, “What does it look like at home? Do they have chores? Do they have limits on the amount of time that they have to do things?” These kids typically are different in the classroom than they are at home, but not entirely. They are still going to be the same kid.

Justin leverages parent conversations around noncognitive factors to talk about how current behaviors could eventually catch up to students if they do not grow their noncognitive factors:

> You can blow a parent's mind when you go over the scored rubric, and the student has a 2. They're like, "What?! He's getting proficient or advanced on all of his standards-based grades. Why do they have a 2?" You've got to force these teachers to have these tough conversations. I would say something like, "Yes, your kid is doing fine now in fourth grade. But when he gets to sixth or 12th grade, is he still going to be able to fly by the seat of his pants?" That's what makes this whole thing great. It's not just for the struggling students; it's also to help the successful ones get better.

RQ 2 Results: According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?

Research Question 2 examined the impact of student self-reflection, self-assessment, and teacher feedback on student academic mindsets growth. As with RQ 1, a student's ability to self-reflect and self-assess are age/development dependent. Academic mindsets refer to a student's disposition toward their academic abilities. Students with a fixed academic mindset see their ability to learn as fixed and outside of their control. Students with a growth mindset see the connection between effort and learning. They understand that with persistence and practice, they can increase what they know, understand, and are able to do.

Survey Question 20 asked respondents their level of agreement with the following statement "The Grit Score Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of a growth mindset. In other words, they are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort." Of the 14 respondents, nine agreed or strongly agreed with this statement. This is no surprise, as student cognitive development likely greatly impacts their ability to understand their mindsets. Reasons for disagreeing ranged from "I do not feel that it is developmentally appropriate" (from Pearl, a first-grade teacher) to "I think the younger students have a harder time grasping this concept" (from Karla, a second-grade teacher). Reading specialist Brenda stated:

> "I don't know that the Grit Rubric has helped with the growth mindset. I think building relationships with students and focusing on the growth mindset and showing them that they can do hard things [is more important than the rubric] and that with time, skills get easier for them. I think the relationships are more valuable than the rubric."

Understanding Academic Mindsets

For many students, understanding their academic mindset can be difficult. For most students in kindergarten through second grade, understanding their mindset is above their cognitive developmental level. Pearl, a first-grade teacher, shared her thoughts on the difficulty of students in the lower grades to see and develop growth mindsets. She stated, "Academic mindsets is a tricky area. I would say the age that I teach, I don't see that revelation of growth mindsets much. It could just be a developmental thing." Kelly discussed her thoughts on the developmental challenges of second-grade students

embracing a growth mindset. She shared, “Maybe more of your higher kids can understand having a growth mindset, but it’s difficult for most students.” Students in grades 4 and 5 are much more capable of understanding and evolving their academic mindsets. The majority of mindset growth for fourth- and fifth-grade students occurs through teachers instilling in students the importance of giving their best effort and through intentional conversations that focus on connecting student success to their efforts rather than their natural abilities. Justin explained the connection between self-assessment and mindset growth:

> I don’t think you could put anything else against it [the rubric] as far as how it impacts their maturation process as a student. Fourth grade is always an integral year. They’re closer to being adults than they are babies. So, let’s start taking these steps to get them there with their mindsets.

Karen explained the motivational aspect for students knowing that they can control their noncognitive factors behaviors:

> It gives kids control of their own actions. To many, getting good noncognitive factors scores is more important than getting good scores on their report cards. They can’t wait to see what their scores are because that is something they can totally control. Sometimes their strength is not always going to be academics. Those kids who work their butts off, they can see the connection between “I can control the amount of output that I do, and although it may not lead exactly where I want it too, academically, I can still grow.”

Vocabulary plays a key role in this process, as does connecting student noncognitive factors scores to their academic success. It is necessary to identify areas of academic

growth and connect those areas to effort to help students evolve their mindsets. Justin shared the value of connecting noncognitive factors scores with academic outcomes:

> Once the kids see, in maybe the first quarter, what those scores were, I mean, man, it's so powerful how a kid that gets the reason for their standard-based grades, gets a 2 on the rubric score, and how much that will affect them academically. It's powerful.

A Long Process

Students' understanding of their academic mindsets and the subsequent growth of these mindsets, develops over a period of many years, as students progress from grade to grade. Persistent learning around noncognitive factors, the use of consistent noncognitive factors vocabulary, discussions around noncognitive factors growth, and other motivational tools can lead to academic mindset growth over time. Karen shared the value of older students modeling good mindsets and other noncognitive behaviors to the younger students:

> In fifth grade, we always talk about setting the example of good noncognitive factors for the younger kiddos. So, I think they get to see them modeling good behaviors. "Hey fifth graders, you're setting the example for the rest of the school."

Sammy, the lead counselor, shared an example of how noncognitive factors learning has opened the door for her to have conversations with students around their mindsets:

> Having a growth mindset is one of my main focuses for conversations with students this year. Yesterday, I had a student come to my office to talk with me.

> He was in a panic. I asked him, "What are you struggling with?" It was math. We talked about his mindset, we talked about perseverance and giving his best in certain situations, but then, specifically, I told him that he had a fixed mindset. I asked him, "How can we change this to a growth mindset?" By the end of the conversation, he was relaxed and able to go back to class. Mindset fits right in with what we are doing with our noncognitive factors programming here.

RQ 3 Results: According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?

Research Question 3 examined the impact of student self-reflection, self-assessment, and teacher feedback on student academic perseverance. As with RQ1 and 2, a student's ability to self-reflect and self-assess were age/development dependent. Perseverance refers to a student's ability to continue to work to overcome difficult challenges. Students with a high ability to persevere are more likely to meet a challenge with effort, not give up when a task is difficult, and leverage multiple learning skills to overcome this challenge. Students who successfully persevere are more likely to achieve academic success.

Survey Question 22 asked the educators to mark their level of agreement with the following statement: "The Grit Score Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of perseverance when it comes to difficult tasks. In other words, they are more likely to face difficult academic challenges and work to overcome those challenges." Of 14 respondents, 10 agreed or strongly agreed with this statement. Four respondents had no opinion or disagreed. First-grade

teacher Melissa did not agree, stating, "I believe the idea of 'grit' helps them to persevere through difficult tasks. I do not believe the actual rubric is as effective for the younger students." Karla, a second-grade teacher, agreed with the statement but added, "We talk in the classroom about how when things get hard we have to give our best effort." Teachers do see value in the rubric as a guidepost for growing perseverance; however, relationships, conversations, and pushing students to persevere seemed more effective in helping students to grow their perseverance.

Understanding Academic Perseverance

For younger students, their perseverance can be a difficult concept to grasp. For most students in kindergarten through second grade, self-regulation of their ability to persevere was cognitively difficult. In these grades, perseverance can be developed through a two-pronged approach. First, this can be taught organically, as situations for teaching and modeling perseverance present themselves. These opportunities mostly occur conversationally through one-on-one, in small group, or whole-class dialogue. Hillary provided an example of an organic opportunity to teach about perseverance:

> Kids do not color anymore. All they do is sit and swipe. So, when you ask them to color, they complain about how bad their hands hurt. We talked about how their hands hurt. [So she asks them:] "But do you think your hand is going to get stronger if you quit?" But now they are coloring the entire page and not complaining, and they're actually doing a nice job.

Pearl shared her thoughts on perseverance at the first-grade level:

> I do think, if voiced and talked about in the classroom, there is an impact that is made on perseverance because I do think that they start to make that connection, but they still have to be pushed along to do it.

The second approach to teaching perseverance is through intentionality, by forcing students to persevere through difficult tasks or by sharing examples of others who have persevered. Hillary provided an example of an activity that she employs to intentionally force students to persevere:

> I do a lot of tear art. Because of that, I make them tear little pieces of paper, and we make designs out if it. I won't let them cut because they have to strengthen those fine motor skills. Like coloring, they complain about how their fingers hurt. They ask to use scissors. Some will eventually get mad and crumple up their papers. But I always say, "No, we are going to use our little fingers." This is another example of perseverance because it's very hard for them at the beginning of the year. It may sound trivial, but they are in kindergarten, so these are huge things for them.

Hillary also shared an intentional activity using storybook characters to model perseverance:

> We read a lot of *Pete the Cat* books. One particular story focused on Pete the cat trying hard and not giving up. We discuss how he perseveres through challenges. I use a lot of storybook characters to make it more meaningful to them in their own world.

Pearl also uses storybook and historical characters to model perseverance:

> If we have a story character, off the top of my head, *The Little Engine that Could*, I read that story to the kids, and we talk about it. I ask them, "Did he give up? What does that mean?" Using those examples can help students learn how to persevere.

Perseverance can also be learned through noncurricular experiences. Many students face challenges in their daily lives that force them to learn how to persevere. Kelly shared an example of how students learn to persevere by overcoming difficult challenges outside of the classroom:

> I have a student who was diagnosed with diabetes. He was completely opposed to shots at the beginning and didn't like having his finger pricked. Through conversations with me, the nurse, and the principal, he has been able to persevere. The nurse told me the other day that he let her give him a shot with other kids in the office.

Students in grades 4 and 5 are very capable of understanding and evolving their ability to persevere. Most of the mindset growth for fourth- and fifth-grade students occurs through teachers instilling the importance of giving their best effort and pushing them to overcome difficult challenges. Justin shared his thoughts on perseverance:

> That's the biggest thing, them taking their success to heart, and being like, "I can already do this," but getting them to understand the easy things; anyone should be able to do the easy things. We have to push ourselves to do the hard things. That's where the growth comes.

In older students, perseverance can be grown by connecting academic outcomes to grit scores. This opens the door for conversations around perseverance and how it can lead to

academic success. Creating a classroom culture that encourages students to be okay with making mistakes while continuing to put forth their best effort is critical for helping students to persevere. Karen shared the importance of the culture of the classroom in driving perseverance:

> Perseverance is a challenge. It's a challenge to get them to improve on it. It's important to let them know that it's okay to make mistakes. It's important to build that class and community. Now, in the second quarter, they are starting to feel comfortable. It's okay to make mistakes. It helps them to open themselves up.

A Long Process

Perseverance and students' understanding of perseverance are grown over a period of many years as students progress from grade to grade. Persistent learning around noncognitive factors, the use of consistent noncognitive factors vocabulary, discussions around noncognitive factors growth, and other motivational tools can lead to students growing their ability to persevere. Brenda shared her thoughts about how perseverance builds from grade to grade:

> As the reading specialist, I work with students from all grade levels. I have the unique opportunity to see their growth. Perseverance is definitely an area that they grow. For the younger students, they begin to display greater perseverance. By the time they reach third, fourth, or fifth grade, they are much more aware of their ability to persevere. This is a combination of their developmental readiness and the work of the teachers in the younger grades.

RQ 4A Results: According to elementary school educators, which classroom practices most significantly impact student noncognitive factors growth?

Research Question 4 examined which classroom and schoolwide practices had the biggest impact on student noncognitive factors growth. Due to the large volume of findings specific to each context, the findings have been divided into two separate categories. First, we will focus on Question 4A, the classroom practices that have the most significant impact on student noncognitive factors growth. As with the prior questions, the findings are grouped into two distinct domains: (1) lower grades, K-2 and (2) older grades, 4 and 5. This study was unable to acquire adequate participation from third-grade teachers; therefore, findings for third grade are inconclusive.

Younger Students: Grades K-2

Organic Opportunities. In kindergarten through second grade, growing student noncognitive factors occurred best through organic opportunities, as situations present themselves. Noncognitive factors learning most regularly occurred through conversations between teachers and students. These conversations took place either one-on-one, in small groups, or as whole-class discussions. Teachers guided students through self-reflection and problem-solving, which can lead to noncognitive factors growth. Pearl talked about the need for conversations to guide noncognitive factors growth. She shared, "No one is having these discussions at home with 80% of our kiddos, so that is something that I struggle with. Having conversations with your students as situations arise is so important." Hillary discussed the value of adapting the rubric indicators to real-life experiences. She provided some examples of real-life situations that she has used to teach noncognitive factors:

> Do they pay attention to me when I read a story? Are they spinning around on their bottom? Do they hang their backpack up? Can they work with other students? Can they work independently for 5 minutes? You just adapt the rubric indicators to meet what they are really doing in class. Then, you talk about it with them.

Hillary added that, often, it is not enough to talk with them once. She stated, "Reminders, just yeah, lots of reminders in kindergarten about expected behaviors."

Intentional Practices. In kindergarten through second grade, growing noncognitive factors can also occur through deliberate practices. One such example is the use of storybook characters or historical persons as models to display positive noncognitive factors. Another example is by providing students with the tools to persevere through difficult self-help situations at school. Hillary shared how natural teaching noncognitive factors in kindergarten can be:

> In kindergarten, teaching the indicators just comes natural, as far as like you do it through stories. You have to get a hold of the first time in school behaviors and talk about them. We intentionally work on zipping up jackets, packing bookbags, and other self-help skills.

A third example of intentional practice is providing students with strategies to practice self-responsibility at home, which can be accomplished in the absence of parental guidance. Kelly shared an example of how she discusses with her students the importance of having responsibility at home:

> "What if your parents don't ask you to get your folder out and practice your trick words? Do you just not practice them?" They were like, "No, you can get them

> out and do them yourself." "What if you don't have paper or pencil? Could you write them with your finger? You can think of ways to practice, and it doesn't have to be your parents asking you to practice."

A final intentional practice is leveraging the high expectations of the principal to motivate students to grow their noncognitive factors. Many students have a strong desire to impress, or at the very least, not disappoint, the principal. Hillary shared her thoughts on leveraging the principal to motivate her students to grow their noncognitive factors:

> In kindergarten, my kiddos are obsessed with pleasing the principal. I use it to my advantage. So, if they are making a bad choice, I will remind them by saying, "You know, you hear the principal talk about using your 'grit.' If he walked by and saw you doing this, what would he say?" It doesn't always work, but I use it to my advantage.

Pearl agreed with Hillary and added, "I use it to my advantage because it is a self-motivator for them to reach the goal of making the principal happy here."

Older Students: Grades 4-5

Organic Opportunities. In fourth and fifth grade, growing student noncognitive factors occurred best through organic opportunities, as situations presented themselves. Noncognitive factors learning most regularly occurred through conversations between teachers and students. These conversations took place one-on-one, in small groups, or as whole-class discussions. The teachers guided students through self-reflection and problem-solving, which can lead to noncognitive factors growth. There were ample opportunities for students to self-reflect during normal curricular learning. Justin discussed the value of talking about noncognitive factors every day. He shared, "The one

best practice in my classroom is, generally, daily conversations to let the kids know why those character traits will give them success in life. Modeling the expected behaviors, too, as their educator." Karen agreed with Justin and added more context:

> Conversations around noncognitive factors are not just something that pops up at the end of the quarter, and it's like, "Hey! Surprise!" These are constant daily things, you know? "Persevere"—just using words like that on a daily basis, in everything that they do throughout the day. It's just natural language.

Intentional Practices. In fourth and fifth grade, growing noncognitive factors can also occur through deliberate practices. One example is the use of student self-evaluation of their noncognitive factors by self-scoring using the Noncognitive Factors Rubric. Self-scored rubrics were compared to teacher-scored rubrics, which can lead to powerful conversations about goal setting and growth. Self-evaluation was a critical first step in the goal-setting process. Self-evaluation and goal setting led to more motivated students and greater self-awareness as well as giving students ownership of their behaviors and learning outcomes.

It is important to first look at the big picture, schoolwide perceptions of self-assessment. Survey Question 18 asked teachers to rate their level of agreement with the following statement: "The Grit Score Rubric prompts excellent conversations around the behaviors expected of good learners and promotes student self-evaluation of their growth as students." Out of 14 respondents, 13 agreed or strongly agreed that student-teacher conversations around noncognitive factors promotes student self-evaluation of their growth. This means that even if students were not scoring themselves, teacher conversations were driving self-reflection and self-evaluation.

Teacher and student conversations provided an avenue for dialogue and allowed teachers to provide specific focus areas for students to improve. Justin shared his thoughts on the need for student self-assessment and the subsequent conversations. He stated, “I sit the kids down and have them score themselves on that rubric, and then we would sit and talk about it, you know, and that was a pretty powerful thing.” When asked about the one best practice for growing noncognitive factors, Justin stated, “It’s got to be those self-led conversations around the rubric.” The four Noncognitive Factors Rubric indicators provided students with ample opportunities to grow in at least one area. Ultimately, self-evaluation was often motivational. Students saw that they could control their effort. This can motivate students who may be less cognitively gifted. Karen shared the importance of instilling in students the mindset of giving their best effort:

> One of the things the fifth graders will tell you is that Mrs. _____ [Karen] will make sure that you are giving your best effort. And so they kind of have that understanding. That best effort is what it’s all about. It’s just talked about a lot.

Justin also shared about student ownership of effort. He stated, “The control is in the kids’ hands because they want to get their scores up by giving their best effort.”

Students also nominated their peers for the student-of-the-month awards. Nominations had to focus on specific aspects of noncognitive factors. These nominations forced students to think about their classmates who displayed the highest level of noncognitive factors. This prompted metacognition about their own noncognitive factors’ performance. Justin shared the impact of having students nominate other students in class for the student-of-the-month awards:

> I won't just let them write a name and say, "I think Dustin should get student of the month because he's nice or cool." I make them write nominations that focus aspects of noncognitive factors. Kids notice the kids that are getting student-of-the-month awards.

Karen also had her students complete student-of-the-month nomination forms for their peers:

> It's not a popularity contest. It's "How did they show good behaviors? Be specific. What did they do?" So, they see an example of someone who is modeling good noncognitive behaviors.

RQ 4B Results: According to elementary school educators, which <u>schoolwide</u> practices most significantly impact student noncognitive factors growth?

RQ 4B focused on the schoolwide practices that had the most significant impact on student noncognitive factors growth according to classroom teachers and peripheral staff members. Survey Question 16 asked the level of agreement with the following statement: "I am supportive of and find value in the use of the Grit Score Rubric in helping my/our students to grow as students, learners, and people." All 14 respondents agreed or strongly agreed with this statement.

Survey Question 17 asked respondents to mark their level of agreement with the following statement: "The Noncognitive Factors Rubric is effective for growing student noncognitive factors." Twelve out of 14 respondents agreed or strongly agreed with this statement. So, there seems to be a high level of value around the use of the rubric and/or programming and interventions that are based on the rubric. Teachers were in support of this program's effectiveness for helping to grow students' noncognitive factors.

Question 19 asked survey respondents to mark their level of agreement with the following statement: "The Noncognitive Factors Rubric has helped my/our students to grow as learners and has positively impacted their academic achievement." Of 14 respondents, 12 agreed or strongly agreed that the Noncognitive Factors Rubric has positively impacted student academic achievement. This is a positive sign for schoolwide and classroom noncognitive factors programming and interventions.

One key takeaway from this study is that for many teachers, the Noncognitive Factors Rubric and its noncognitive factors indicators serve as guideposts for noncognitive factors learning. Teachers saw more value in relationships, conversations, and pushing their students to give their best effort and overcome difficult challenges. The rubric and its indicators provided teachers with a common vocabulary and set of expectations for noncognitive factors that can lead to successful students.

Common Schoolwide Vocabulary

"Grit." "Grit" is the common term used throughout the school as a replacement for the term "noncognitive factors." The phrase "noncognitive factors" does not have nearly the symbolic impact that grit portrays. Grit does not have the same meaning as the noncognitive factors know as "grit," as made famous by Angela Duckworth (2007). Instead, at River Valley, this version of "grit" serves as an overarching, guiding term for noncognitive factors growth. Grit equates to giving your best effort and persevering when things are tough. Justin described the importance of the common terminology of what they call "grit" and why they use that term to describe noncognitive factors in their school:

> Many kids just give up when something's a little bit difficult. Using the terminology of grit where, I don't know that you'd have the same weight if you called it "noncognitive factors," you know? You wouldn't say that term with kids. That's where grit really stood out to a lot of kids. Even in our community, these kids come from poor home life situations. That's what grit is; it shows toughness. Tough is not giving up. It's that John Wayne mentality.

Karen described how her students use grit terms in class:

> My students use the terminology a lot. I had a student in my class talking about a book that we read together, *A Fish in a Tree*. That student was talking about a character, Ali. He said that Ali has a resilient mindset. I was like, who uses that vocabulary in fifth grade? But it is because they know what grit means.

Pearl shared the role that the principal plays in instilling a grit mindset in kids:

> Dr. _____ [principal] comes in our classroom during brag tag ceremonies and asks students to show their grit faces….He also put up posters in our rooms. They are the same in every room and in the hallways. They help to show what grit means, and they are everywhere.

Kandy, the math specialist described the significance of using a common language schoolwide:

> It's important that the kids continue to hear "grit" schoolwide, so that they understand this is not just a word that I am going to hear in my classroom. I will hear it in my special areas and in common areas of the school. It's important that it is implemented schoolwide.

Brenda, the reading specialist, shared the impact of a schoolwide program on helping students in a non-regular classroom setting:

> Grit programming has had the impact of being able to refocus kids' mindset[s] when things get hard and you see them wanting to give up. You can revisit that talk about grit, and it helps push them forward and persevere through hard times. If it wasn't something that we had focused on as a school, that may not be something that you could even bring up because you would have to teach them what it is first, because those are not words that kids know or used often. Because we talk about it schoolwide, kids know it, understand it, and you can use the vocabulary to help them persevere.

Noncognitive Factors Rubric. The Noncognitive Factors Rubric, also known as the "Grit Score," is a scoring guide that lays out the four noncognitive factor indicators emphasized on by the school. The rubric employs common descriptions to communicate expectations and a common vocabulary, with language that targets specific noncognitive factors for growth. Although many students in the lower grades do not even know that a rubric exists, it guides much of the noncognitive factors learning that occurs in those early grades. In grades 4 and 5, students self-score their noncognitive factors on the rubric and use the rubric to prompt goal setting and dialogue with their teachers. Pearl described how she uses the rubric to guide noncognitive factors learning in her classroom:

> The students do not even know a rubric exists; it just guides natural conversations in the class. We problem solve, we speak respectfully, we work out problems together, we collaborate. My hope is that understanding connects down the road.

Kyla, the assistant principal, shared her thoughts on the impact that the rubric has on student growth. She stated, “With the score, it helps students to visually see where they are at, and to set a goal moving forward to improve in certain areas.” Justin, a fourth-grade teacher, communicated his thoughts on the student’s self-scoring with the rubric. He said, “With kids doing the self-reflection, it helps them to better understand each of those categories and the expectations of where they need to get to.”

Schoolwide Messaging and Expectations

Symbolism. In many common areas and classrooms throughout the school, “grit” images and signage are used to get students in a “gritty” mindset and to constantly think about the noncognitive factors behaviors that they display. The school also shows a video of students displaying “gritty” behavior at the beginning of the year. The principal will also often ask students to show their “grit faces”—to show their toughness. These symbols of noncognitive factors programming help to create a consistent mindset around noncognitive factors growth. Pearl, a first-grade teacher, explained the impact of both the imagery throughout the school and the gritty mindset, overall:

> We have posters in our room. They are the same as in the art room, the hallways, etc. Eventually, they are going to get it….The principal comes around during the quarterly brag tag assemblies. He asks students to show their “grit” faces. Some kids get it; they show a tough face. Some kids are just sitting there smiling, so at their age, they are still learning what toughness is.

Mission and Culture. Noncognitive factors and their subsequent growth are directly tied to and support the school’s mission of “creating champions of character and achievement.” Noncognitive factors programming is engrained in the culture of the

school. As stated above, the symbolism of "grit" is everywhere throughout the school. The focus of the school is on developing noncognitive factors, with the idea that they will subsequently impact student learning and academic achievement. The counselor, Sammy, described the connection between their noncognitive factors programming and the mission of the school:

> Our mission of building champions of achievement and character fits completely into what grit is. And the building champions part of it, I think that with us teaching noncognitive factors and what grit is, that's how you build champions. So, yes, what we are doing fits directly into that.

Anchoring Conversations. At the beginning of each school year, the counselors and principals visit each classroom to explain the expectations around noncognitive factors and their connection to overall success. These conversations help to instill a student mindset that focuses on noncognitive factors and good behaviors. Kyla shared the value of schoolwide grit language to grow noncognitive factors:

> Grit is vital as a schoolwide language. Sometimes teachers implement things as outliers, but the term "grit" speaks to students in the cafeteria, PE, classrooms, my office, the counselor's office. Having a schoolwide model for these kiddos holds everyone accountable for having a good work ethic and persevering. Having that common school language is vital.

Kelly shared the role of anchoring conversations in setting expectations around noncognitive factors growth:

> The principal comes around at the beginning of the year and talks about it with them, and then they hear it again from him when he comes around for the

quarterly assemblies. But it is also important to use the terminology in between those visits. If they don't hear it frequently, they are not going to understand and use the language, the vocabulary.

Pearl described the schoolwide imagery that exists throughout the building:

In our building, in many places, you can walk through the building, and you see the word "grit." Every so often, students will ask, "What does that say? What does that mean? Why is that picture hanging there?" And it's clearly someone who is working hard, and so I will stop and say, "He's working hard or using his grit; he's being responsible."

A Long, Steady Process. There is a common understanding among teachers that growing students' noncognitive factors is a long process that builds from year to year. Being consistent with the process and implementing it with fidelity leads to a point in time where students will be more capable of understanding their own noncognitive factors growth. Hillary shared her thoughts on this process for building student noncognitive factors:

I just think that it starts young, and then, you keep progressing through all of the grades. Eventually, the goal is that they will be very familiar with growing their noncognitive factors, what they are and how to apply them.

Karen added her thoughts on this progress and how it manifests by the time students reach fifth grade. She shared, "My students know grit; they understand noncognitive factors. By the time they get to fifth grade, they know what they need to do to work on improving their noncognitive factors." Pearl shared her thoughts on the role of the lower grades in laying the foundation for this understanding:

> I feel that the vocabulary and organic conversations are the most important things that we do at the younger grades. In my mind, by the time they are in third, fourth, or fifth grade, they've heard it, and they understand it. That's my hope at least.

Kandy described the impact of noncognitive factors programming on her students:

> I am hoping that we are at the point where it's becoming the [sic] intuition for the students. I am hoping that we are at the point of being able to have conversations with them around goal setting. I think it is because of the conversations with students about their growth and their goals. I didn't have these conversations when I first started my career, but I do now.

Hillary shared her thoughts on the strength of this programming as it builds from year to year:

> It starts young, and they keep progressing through all the grades, and eventually, the goal is that they will be very familiar with grit and their noncognitive factors. They will understand what those behaviors are, how to grow them, and how to apply them to learning.

Schoolwide Motivators

Brag Tags. Brag tags are dog-tag-like awards that students collect and display on their backpacks. They are given to students for demonstrating specific noncognitive factor characteristics. Students are extremely motivated to earn and display brag tags as a sign of their good achievements. Justin, a fourth-grade teacher, described what a brag tag is and how they motivate students in the school:

> I mean, you think the kids don't care about those little brag tags. I mean, they are pieces of junk; you can see they are cheap little plastic dog tags. Look, this one

> says "caught being nice." But I have some hard-nosed boys in my class this year. They kind of act a little older than they are, care about things they shouldn't, but they still care about those brag tags. They are motivating those boys to get something and do better.

Kandy, the math interventionist, described brag tags as "a badge of honor" for kids. She shared that her personal favorite is the one that reads "caught being nice." Brenda, whose son is also a student at the school, described how he has collected brag tags over the years. She stated, "Corey's got a key ring where he puts them all on from every year; it's almost a complete circle now." Hillary described the impact of the first brag tag ceremony of the year on kindergarteners:

> Yesterday, we had our first brag tag ceremony. It was a big eye-opening experience for them to realize that the principals will come in, and there are certain things that they have to master to get a brag tag. They have to keep working hard to get one.

Student-of-the-Month Awards. Monthly throughout the school year, each grade level selects one student-of-the-month. These awards are typically given to students who display high levels of noncognitive factors. These awards are highly motivational for students and set the expectations for what behaviors are desired and celebrated. Justin shared the impact of his process of having his fourth-grade students nominate other students for students of the month. He stated, "I make my kids nominate other kids, and they have to give a reason. That reason is generally around grit. Generally, kids pick their best peers, and those kids become the model of what those behaviors should look like."

Professional Learning Community (PLC) Calibration

As an aspect of their grade-level professional learning communities, PLC teams calibrate around the indicators and descriptions on the Noncognitive Factors Rubric. This process ensures that teachers are aligned in their expectations and score rubrics in a similar manner. Hillary described this process:

> In kindergarten, we get together and talk about how the rubric applies to our kiddos. We talk about the rubric's expectations versus what we see. The rubric is really written for older students, so we have to adapt and apply it to kindergarten kiddos.

Karen described how all fifth-grade teachers shared and used the same reflection sheet. She stated, "It was something that I created but the whole team uses for student reflections. It helps us to all be on the same page with our expectations."

One-On-One Conversations with the Principal

The principals meet one-on-one with each student multiple times throughout the year. Noncognitive Factor Rubric scores are compared to student NWEA MAP test results. These meetings drive conversations around noncognitive factors growth and prompt goal setting related to desired NWEA test outcomes. Kyla shared her experience of having one-on-one conversations with students:

> The principal and I focus on the NWEA scores, in particular. We go into each classroom, meet with each kid in an informal conversation. We pull up their NWEA scores, we show them their growth, and just sort of tackle some goals. We ask them, "Where do you want to be?" We talk about slowing down, reading, and giving your best effort. This has poured into other subject areas as well.

Reading specialist Brenda described the impact of these one-on-one conversations. She shared, “I think the kids are showing grit because of those conversations. The individual focus that the principals have given to each student saying, ‘Hey, I am watching and reminding them to show grit and work through it’.”

Rubrics on Quarterly Report Cards

Report cards are distributed four times per year to families at the conclusion of each quarter. A component of each report card is the teacher-scored Noncognitive Factors Rubric for that quarter. The rubrics have a box for each quarter’s score and can show student noncognitive factors growth over the entire year. On their own, these rubrics can help to explain how students are performing academically. When the scored rubrics are coupled with parent-teacher conversations, they serve as a powerful tool to explain the “why” behind how students are achieving academically, aspects that students can improve upon, and ways that parents can support student growth at home. Brenda, the reading specialist, described the value of having scored Noncognitive Factors Rubrics on the report card for non-regular classroom teachers:

> Having that rubric right there by you during parent-teacher conferences is important because you are able to say, “This is the score they have on the report card, but this is how hard they are trying.” It goes hand-in-hand. Being able to have that in your back pocket helps when conversations are tough. I don’t have a lot of easy parent-teacher conferences because my students all struggle. But being able to say, “Yeah, but they are working hard” is a game changer.

Pearl described her thoughts on including the scored rubrics with the report cards:

> When we started using the rubric at River Valley, it wasn't on the report card. It was overwhelming to explain to parents. But, years later, I am glad we put in this effort. Having it on the report card is helpful to parents. It makes it so much more enlightening for parents to understand how their students are doing on our expectations.

The Principal as Leader

The principal is ultimately the driving force behind the success of the schoolwide noncognitive factors implementation. He places noncognitive factors growth front and center through his actions, words, and behaviors. He works to instill the mindset in both students and teachers that noncognitive factors growth is critical to student academic success. Assistant Principal Kyla shared her experience of how the beginning of the year conversations with classes help to set common expectations around noncognitive factors growth. She shared, "At the beginning of the year, the principal, the counselor, and I go into each classroom. We talk about grit and what it means. It helps to clarify expectations about what we want to see." Pearl talked about the impact of the principal placing symbolic imagery throughout the school:

> My students and I were walking through the building and saw "grit" posted everywhere. One of my students who happens to be an observant reader, was like, "The principal's just all about that grit!" If the principal was not coming into our classrooms and talking about what grit looks like, this whole thing would not be as successful.

Karen explained how the principal leads the charge with noncognitive factors programming. She stated, "The principal talks about scoring 3s and 4s on the rubric, and

how difficult it is. He just really pushes the emphasis on that for our students." Kandy explained how critical it is that the principals incentivize noncognitive factors. She said, "The principals put their money where their mouths are. They have offered up incentives to get kids to focus on grit and grow." Justin described the role of the principal in this programming and the programming's overall importance to kids:

> When the principal took over in this role, he adopted this program. He did it to promote better behavior, for kids to realize what responsibility is, what engagement looks like. These things would maybe catch up to them if we didn't work on growing them. The principal adopted this program and has been all in ever since.

Summary

Successful noncognitive factors programming is a long and steady process. As students develop cognitively and progress from grade level to grade level, they receive more opportunities to self-reflect, self-assess, and become more self-aware of their noncognitive factors growth. This process has worked successfully at helping students to grow their noncognitive factors, which in turn, can lead to greater academic success. The schoolwide noncognitive factors indicators, vocabulary, symbolism, and motivation are key to the success of this program and to subsequent noncognitive factors growth.

According to teachers, there is a high level of value around the use of the rubric and/or programming and interventions that are based on the rubric. Teachers are in support of this program's effectiveness for helping to grow student noncognitive factors. This is an encouraging sign for schoolwide and classroom noncognitive factors programming and interventions. One critical takeaway from this study is that for many

teachers, the Noncognitive Factors Rubric and its noncognitive factors indicators serve as guideposts for noncognitive factors learning. Teachers saw more value in relationships, conversations, and in pushing their students to give their best effort and overcome difficult challenges. The rubric and its indicators are what provide teachers with a common vocabulary and set of expectations for noncognitive factors that can lead to more successful students.

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APPENDICES

Appendix A

Survey Participant Recruiting Email

Dear Certified Teachers and Staff,

I am writing to invite you to take part in my doctoral research through the University of Missouri-Columbia. As a public high school principal, I have had a strong interest in helping students to grow their academic behaviors, also known as noncognitive factors. During both my time as a classroom teacher and as a principal, I have seen a need to help students grow these behaviors with staff support. Noncognitive factors are shown to have a substantial impact on academic outcomes and life-long success. Because of this interest, I have dedicated my dissertation research to finding the impact of the Noncognitive Factors Rubric on student self-assessment and teacher feedback and on the growth of student noncognitive factors (specifically in the academic mindsets and academic perseverance domains) as well as to identify best classroom practices for growing noncognitive factors in the regular elementary classroom.

Your school was chosen as the setting for this study due to your school's vast implementation of the Noncognitive Factors Rubric and its focus on growing student noncognitive factors as a key aspect of your mission. For this study, four data collection methods will be used:

1. Document analysis of the organization's current noncognitive factors program.
2. Classroom teacher surveys.
3. Classroom teacher and peripheral staff interviews.
4. Focus groups of teachers and peripheral staff.

The purpose of this email is to seek participants for the Noncognitive Factors Intervention Online Survey. The survey will only be provided to certified staff members who either teach in regular grade K-5 classrooms or to peripheral staff members who support classroom teaching through their work (e.g., counselors, interventionalists, library staff, principals). The survey will ask 21 questions about your perceptions related to the implementation and impact of the Noncognitive Factors Rubric in your classroom or school. The confidentiality of all participants will be maintained, and all raw data will only be available to me, the Principal Investigator. Any data collected will be transcribed for accuracy, and all identifiable information will be redacted for anonymity.

After the research is completed, the results will be shared with your organization to help strengthen noncognitive factors growth practices in your school.

If you have any additional resources or documents that would help the researcher to better understand the noncognitive factors interventions, the Noncognitive Factors Rubric, or how these interventions support your school mission, you are welcome to

share them with me. Examples of these types of documents could include lesson plans, grading policies, communication to parents about the Noncognitive Factor Rubric, presentations used to train teachers or students, and procedures used by the staff as part of the treatment, among other items.

If you have any further questions, please feel free to reach out to me at (314) 614-8128, or email me at dlbtf7@umsystem.edu.

Please consider providing your unique expertise and insight to this study.

If you would like to participate in this study, please reply to this email, or email me at dlbtf7@umsystem.edu.

Thank you for volunteering to share your time and knowledge to advance our understanding of noncognitive factor growth in the elementary classroom setting.

Sincerely,

Dustin L. Brown
Principal Investigator

Appendix B

Consent to Participate in a Research Study

Project Title: Certified Staff and Teacher Perceptions of Systematic Regular Classroom Noncognitive Factors Interventions and their Perceived Impact on Student Noncognitive Factors Growth in one Midwestern Elementary School.

Principal Investigator
Dustin L. Brown
dlbtf7@umsystem.edu
314-614-8128

Institution
University of Missouri-Columbia

IRB Reference Number: 2091165

Purpose of the Study
The purpose of this study is to address the gap in research surrounding the lack of classroom-ready strategies for growing multiple noncognitive factors in elementary students as an aspect of regular classroom instruction. This study will evaluate the effectiveness of using the Noncognitive Factors Rubric to guide student self-assessment and teacher feedback, specifically in the academic mindset and academic perseverance domains. This study also seeks to identify other best classroom practices in growing noncognitive factors over time.

Introduction
You are invited to participate in a survey, interview, and/or focus group that will provide data for this study. The study will add to the existing body of knowledge and fill gaps concerning noncognitive factors growth in the regular elementary classroom. Additionally, research into noncognitive factors growth could provide needed guidance to schools and districts in the future. The findings of this study will also be provided to River Valley Elementary and may help to improve current practices. Your participation in this study is voluntary, and should last up between 15-25 minutes answering the survey. The survey will be completed electronically via Qualtrics. You can complete this survey in a location that is comfortable and conducive for you. If you are being interviewed, please anticipating spending approximately 15-25 minutes in the video interview. The interview will occur using Zoom video software. If you prefer a face-to-face interview, the interview will occur at River Valley Elementary in a location that is comfortable and conducive for you. If participating in a focus group, anticipate spending approximately 20-30 minutes to one hour in the focus group setting. The focus group will take place at River Valley Elementary in a group setting. It will occur in a location the building that is comfortable and conducive for all focus group participants. Please note that you must be 18 years of age or older to participate in this study.

Background Information
This is research for a dissertation within the Educational Doctorate Program through the University of Missouri-Columbia.

Possible Risks or Benefits
Your participation in this study requires minimal risk. One such risk is the expenditure of your valuable time. This research has the potential to impact your school, your district, and other schools and districts seeking to grow student noncognitive factors.

Right of Refusal to Participate and Withdrawal
You may withdraw from the study at any time. You may also refuse to answer some or all of the questions.

Confidentiality
Any information you provide will remain confidential. No person except the Principal Investigator will have access to your information. Your name and identity will also not be disclosed at any time.

If you participate in an interview or focus group, the interview or focus group will be recorded with Zoom recording software for the purpose of later transcription. Because Zoom software is being used, it will record your voice and, if you choose, video of your face and the setting in which the interview is occurring. Interview and Focus Group participants may choose to have only their voices recorded. In this instance, you will be asked to keep your cameras turned off during the interview. If you choose to only have your voice recorded during a focus group, you will be seated in a location in which the camera does not capture video of you or your face. Zoom recordings will be initially transcribed using Zoom's built-in transcription software. This initial transcription will be "cleaned up" by the researcher by listening to the interview and correcting any issues with the transcription compared to what was said in the interview. Once an interview or focus group has been accurately transcribed, the researcher will use open coding procedures to identify patterns, trends, or themes that stand out from the transcription. Once the Zoom videos have been transcribed, you will have an opportunity to member check the transcriptions and initial coding. An email will be sent to all interview and focus group participants with the full transcription and the codes generated from their transcript. You will be able to provide feedback on the researcher's initial analysis. Once the initial findings have been coded, the original Zoom recordings will be deleted. This will occur by the researcher logging into Zoom and deleting the recordings from the Zoom cloud. All transcriptions and coding documents will remain confidential at all times. Participants will be assigned pseudonyms to protect their identity.

If you have questions about this study, you can contact the University of Missouri researcher at (314) 614-8128 or dlbtf7@umsystem.edu. If you have any questions regarding your rights as a participant in this research and/or concerns about this study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the University of Missouri Campus Institutional Review Board at (573) 882-

3181or umcresearchcirb@missouri.edu. The IRB is a group of people who review research studies to make sure the rights and welfare of participants are protected. If you would like to talk privately about any concerns or issues related to your participation, you may contact the Research Participant Advocacy at 888-280-5002 or email muresearchrpa@missouri.edu

If you have questions at any time about this study or the procedures, you may also contact my dissertation advisor, Dr. Nissa Ingraham, via phone at (660) 562-1776 or via email at nissai@nwmissouri.edu.

You can ask the researcher to provide you with a copy of this consent for your records, or you can save a copy of this consent if it has already been provided to you. We appreciate your consideration to participate in this study.

Appendix C

Teacher Interview Participant Recruiting Email

Dear _____,

Thank you for your participation in the Noncognitive Factors Intervention Online Survey. Your participation will greatly enhance our understanding of the impact of noncognitive factors interventions at your school and beyond. As you are aware, I am a public high school principal currently working to complete my Ed.D. through the University of Missouri-Columbia. I have had a strong interest in helping students to grow their academic behaviors, also known as noncognitive factors. During both my time as a classroom teacher and as a principal, I have seen a need to help students grow these behaviors with staff support. Noncognitive factors are shown to have a substantial impact on academic outcomes and life-long success. Because of this interest, I have dedicated my dissertation research to finding the impact of the Noncognitive Factors Rubric on student self-assessment and teacher feedback and on the growth of student noncognitive factors (specifically in the academic mindsets and academic perseverance domains) as well as to identify best classroom practices for growing noncognitive factors in the regular elementary classroom.

Your school was chosen as the setting for this study due to your school's vast implementation of the Noncognitive Factors Rubric and focus on growing student noncognitive factors as an important aspect of your mission. For this study, four data collection methods will be used:

1. Document analysis of the organization's current noncognitive factors program.
2. Classroom teacher surveys.
3. Classroom teacher and peripheral staff interviews.
4. Focus groups of teachers and peripheral staff.

The purpose of this email is to seek your participation in a one-on-one interview about noncognitive factor interventions. The interview will occur face-to-face and will be recorded using Zoom videoconferencing software to better transcribe the interview for clarity and understanding. Confidentiality of your participation will be maintained, and all raw data will only be available to me, the Principal Investigator. Any data collected will be transcribed for accuracy, and all identifiable information will be redacted for anonymity. Upon completion of the study, the Zoom recording of our interview will be deleted.

The interview is expected to last approximately 15-25 minutes, and I, the researcher, will utilize an interview question protocol of seven questions to guide our conversation. The purpose of this interview is to take a deeper dive into your thoughts, feelings, and ideas about noncognitive factors interventions in your classroom and their impact on student success.

After the research is completed, the results will be shared with your organization to help strengthen noncognitive factors growth practices in your school.

If you have any additional resources or documents that will help me to better understand noncognitive factor interventions, the Noncognitive Factors Rubric, or how these interventions support your school mission, you are welcome to share them with me. Examples of these types of documents could include lesson plans, grading policies, communication to parents about noncognitive factor rubrics, presentations used to train teachers or students, and procedures used by the staff as part of the treatment, among other items.

If you have any further questions, please feel free to reach out to me at (314) 614-8128, or email me at dlbtf7@umsystem.edu.

Please give consideration to providing your unique expertise and insight to this study.

If you would like to participate in the interview portion of this study, please reply to this email or email me at dlbtf7@umsystem.edu.

Thank you for volunteering to share your time and knowledge to advance our understanding of noncognitive factors growth in the elementary classroom setting.

Sincerely,

Dustin L. Brown
Principal Investigator

Appendix D

Classroom Teacher Focus Group Participant Recruiting Email

Dear _____,

Thank you for your planned participation in both the online survey and focus group about noncognitive factors interventions. Your participation will greatly enhance our understanding of the impact of noncognitive factors interventions in your school and beyond. As you are aware, I am a public high school principal currently working to complete my Ed.D. through the University of Missouri-Columbia. I have had a strong interest in helping students to grow their academic behaviors, also known as noncognitive factors. During both my time as a classroom teacher and as a principal, I have seen a need to help students grow these behaviors with staff support. Noncognitive factors are shown to have a substantial impact on academic outcomes and life-long success. Because of this interest, I have dedicated my dissertation research to finding the impact of the Noncognitive Factors Rubric on student self-assessment and teacher feedback and on the growth of student noncognitive factors (specifically in the academic mindsets and academic perseverance domains) as well as to identify best classroom practices for growing noncognitive factors in the regular elementary classroom.

Your school was chosen as the setting for this study due to its vast implementation of the Noncognitive Factors Rubric and focus on growing student noncognitive factors as an important aspect of your mission. For this study, four data collection methods will be used:

1. Document analysis of the organization's current noncognitive factors program.
2. Classroom teacher surveys.
3. Classroom teacher and peripheral staff interviews.
4. Focus groups of teachers and peripheral staff.

The purpose of this email is to seek your participation in a focus group about noncognitive factors interventions. The focus group will occur face-to-face in a group setting and will include four to seven of your classroom teaching peers. The focus group conversation will be recorded using Zoom videoconferencing software to better transcribe the conversation for clarity and understanding. Confidentiality of your participation will be maintained, and all raw data will only be available to me, the Principal Investigator. Any data collected will be transcribed for accuracy, and all identifiable information will be redacted for anonymity. Upon completion of the study, the Zoom recording of our focus group will be deleted.

The focus group is expected to last approximately 20-30 minutes, and I, the researcher, will utilize an interview question protocol of five questions to guide our conversation. The purpose of this focus group is to facilitate a deeper conversation about noncognitive factors interventions in your classroom, their impact on student success, and the schoolwide impact of these interventions.

After the research is completed, the results will be shared with your school to help strengthen its noncognitive factors growth practices.

If you have any additional resources or documents that will help me to better understand noncognitive factors interventions, the Noncognitive Factors Rubric, or how these interventions support your school mission, you are welcome to share them with me. Examples of these types of documents could include lesson plans, grading policies, communication to parents about the Noncognitive Factor Rubric, presentations used to train teachers or students, and procedures used by the staff as part of the treatment, among other items.

If you have any further questions, please feel free to reach out to me at (314) 614-8128, or email me at dlbtf7@umsystem.edu.

Please consider providing your unique expertise and insight to this study.

If you would like to participate in the focus group portion of this study, please reply to this email, or email me at dlbtf7@umsystem.edu.

Thank you for volunteering to share your time and knowledge to advance our understanding of noncognitive factors growth in the elementary classroom setting.

Sincerely,

Dustin L. Brown
Principal Investigator

Appendix E

Peripheral Staff Focus Group Participant Recruiting Email

Certified Teachers and Staff:

Thank you for your planned participation in both the survey and focus group on noncognitive factors interventions. Your participation will greatly enhance our understanding of the impact of noncognitive factors interventions in your school and beyond. As you are aware, I am a public high school principal currently working to complete my Ed.D. through the University of Missouri-Columbia. I have had a strong interest in helping students to grow their academic behaviors, also known as noncognitive factors. During both my time as a classroom teacher and as a principal, I have seen a need to help students grow these behaviors with staff support. Noncognitive factors are shown to have a substantial impact on academic outcomes and life-long success. Because of this interest, I have dedicated my dissertation research to finding the impact of the Noncognitive Factors Rubric on student self-assessment and teacher feedback and on the growth of student noncognitive factors (specifically in the academic mindsets and academic perseverance domains) as well as to identify best classroom practices for growing noncognitive factors in the regular elementary classroom.

Your school was chosen as the setting for this study due to its vast implementation of the Noncognitive Factors Rubric and focus on growing student noncognitive factors as an important aspect of your mission. For this study, four data collection methods will be used:

1. Document analysis of the organization's current noncognitive factors program.
2. Classroom teacher surveys.
3. Classroom teacher and peripheral staff interviews.
4. Focus groups of teachers and peripheral staff.

The purpose of this email is to seek your participation in a peripheral staff or non-classroom teacher focus group. This focus group will be comprised of staff members who support noncognitive factors growth in your school but do not directly implement the intervention in a regular grade-level classroom. The focus group will be comprised of between five and eight participants who have varying roles in your school and will last approximately 20-30 minutes. The focus group is meant to facilitate real conversations and will be guided by a focus group protocol that includes five questions. The focus group is designed to gather your thoughts, perceptions, and ideas about the success of noncognitive factors interventions in your school and the impact of the Noncognitive Factors Rubric and subsequent interventions on student success. The focus group conversation will be recorded using Zoom videoconferencing software to better transcribe the conversation for clarity and understanding. Confidentiality of all participants will be maintained, and all raw data will only be available to me, the Principal Investigator. Any data collected will be transcribed for accuracy, and all

identifiable information will be redacted for anonymity. Upon completion of the study, the Zoom recording of our interview will be deleted.

After the research is completed, the results will be shared with your school to help strengthen its noncognitive factors growth practices.

If you have any additional resources or documents that will help me to better understand noncognitive factor interventions, the Noncognitive Factors Rubric, or how these interventions support your school mission, you are welcome to share them with me. Examples of these types of documents could include lesson plans, grading policies, communication to parents about the Noncognitive Factor Rubric, presentations used to train teachers or students, and procedures used by the staff as part of the treatment, among other items.

If you have any further questions, please feel free to reach out to me at (314) 614-8128, or email me at dlbtf7@umsystem.edu.

Please consider providing your unique expertise and insight to this study.

If you would like to participate in this study, please reply to this email, or email me at dlbtf7@umsystem.edu.

Thank you for volunteering to share your time and knowledge to advance our understanding of noncognitive factors growth in the elementary classroom setting.

Sincerely,

Dustin L. Brown
Principal Investigator

Appendix F

Noncognitive Factors Intervention Online Survey

Consent to Participate in a Research Study

Project Title: Certified Staff and Teacher Perceptions of Systematic Regular Classroom Noncognitive Factors Interventions and their Perceived Impact on Student Noncognitive Factors Growth in one Midwestern Elementary School.

Principal Investigator
Dustin L. Brown
dlbtf7@umsystem.edu
314-614-8128

Institution
University of Missouri-Columbia

IRB Reference Number: 2091165

Purpose of the Study
The purpose of this study is to address the gap in research surrounding the lack of classroom-ready strategies for growing multiple noncognitive factors in elementary students as an aspect of regular classroom instruction. This study will evaluate the effectiveness of using the Noncognitive Factors Rubric to guide student self-assessment and teacher feedback, specifically in the academic mindset and academic perseverance domains. This study also seeks to identify other best classroom practices in growing noncognitive factors over time.

Introduction
You are invited to participate in a survey, interview, and/or focus group that will provide data for this study. The study will add to the existing body of knowledge and fill gaps concerning noncognitive factors growth in the regular elementary classroom. Additionally, research into noncognitive factors growth could provide needed guidance to schools and districts in the future. The findings of this study will also be provided to River Valley Elementary and may help to improve current practices. Your participation in this study is voluntary, and should last between 15-25 minutes answering the survey. The survey will be completed electronically via Qualtrics. You can complete this survey in a location that is comfortable and conducive for you. If you are being interviewed, please anticipate spending approximately 15-25 minutes in the video interview. The interview will occur using Zoom video software. If you prefer a face-to-face interview, the interview will occur at River Valley Elementary in a location that is comfortable and conducive for you. If participating in a focus group, anticipate spending approximately 20-30 minutes to one hour in the focus group setting. The focus group will take place at River Valley Elementary in a group setting. It will occur in a location the building that is

comfortable and conducive for all focus group participants. Please note that you must be 18 years of age or older to participate in this study.

Background Information
This is research for a dissertation within the Educational Doctorate Program through the University of Missouri-Columbia.

Possible Risks or Benefits
Your participation in this study requires minimal risk. One such risk is the expenditure of your valuable time. This research has the potential to impact your school, your district, and other schools and districts seeking to grow student noncognitive factors.

Right of Refusal to Participate and Withdrawal
You may withdraw from the study at any time. You may also refuse to answer some or all of the questions.

Confidentiality
Any information you provide will remain confidential. No person except the Principal Investigator will have access to your information. Your name and identity will also not be disclosed at any time.

If you participate in an interview or focus group, the interview or focus group will be recorded with Zoom recording software for the purpose of later transcription. Because Zoom software is being used, it will record your voice and, if you choose, video of your face and the setting in which the interview is occurring. Interview and Focus Group participants may choose to have only their voices recorded. In this instance, you will be asked to keep your cameras turned off during the interview. If you choose to only have your voice recorded during a focus group, you will be seated in a location in which the camera does not capture video of you or your face. Zoom recordings will be initially transcribed using Zoom's built-in transcription software. This initial transcription will be "cleaned up" by the researcher by listening to the interview and correcting any issues with the transcription compared to what was said in the interview. Once an interview or focus group has been accurately transcribed, the researcher will use open coding procedures to identify patterns, trends, or themes that stand out from the transcription. Once the Zoom videos have been transcribed, you will have an opportunity to member check the transcriptions and initial coding. An email will be sent to all interview and focus group participants with the full transcription and the codes generated from their transcript. You will be able to provide feedback on the researcher's initial analysis. Once the initial findings have been coded, the original Zoom recordings will be deleted. This will occur by the researcher logging into Zoom and deleting the recordings from the Zoom cloud. All transcriptions and coding documents will remain confidential at all times. Participants will be assigned pseudonyms to protect their identity.

If you have questions about this study, you can contact the University of Missouri researcher at (314) 614-8128 or dlbtf7@umsystem.edu. If you have any questions regarding your rights as a participant in this research and/or concerns about this study, or

if you feel under any pressure to enroll or to continue to participate in this study, you may contact the University of Missouri Campus Institutional Review Board at (573) 882-3181 or umcresearchcirb@missouri.edu. The IRB is a group of people who review research studies to make sure the rights and welfare of participants are protected. If you would like to talk privately about any concerns or issues related to your participation, you may contact the Research Participant Advocacy at 888-280-5002 or email muresearchrpa@missouri.edu

If you have questions at any time about this study or the procedures, you may also contact my dissertation advisor, Dr. Nissa Ingraham, via phone at (660) 562-1776 or via email at nissai@nwmissouri.edu.

You can ask the researcher to provide you with a copy of this consent for your records, or you can save a copy of this consent if it has already been provided to you. We appreciate your consideration to participate in this study.

Click to consent O

Noncognitive Factors Intervention Online Survey

Demographics

1. Which of the following best describes your current role at River Valley?
    a. Certified regular classroom teacher.
    b. Certified non-regular classroom teacher (ex.: SPED, interventionist, etc.).
    c. Certified non-classroom staff (ex: counselor, administrator, librarian, etc.).
    d. Other.

2. Please select the range that most accurately reflects your current experience in your current role:
    a. 0-5 years.
    b. 6-12 years.
    c. 13-19 years.
    d. 20+ years.

3. Please select your highest level of academic training:
    a. Bachelor's degree.
    b. Master's degree.
    c. Specialist's degree.
    d. Doctoral degree.

4. If you are a certified classroom teacher, which grade level do you currently teach?
    a. Kindergarten.
    b. 1st grade.
    c. 2nd grade.
    d. 3rd grade.
    e. 4th grade.
    f. 5th grade.

Implementation Survey

1. I am familiar with the Noncognitive Factors Rubric and its use as a tool to support student self-evaluation and teacher feedback around noncognitive factors growth.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

2. I received adequate training prior to implementing the Noncognitive Factors Rubric with my students in my classroom.
    a. I am not a regular classroom teacher; I have another role in the school.
    b. Strongly Agree.
    c. Agree.

d. No Opinion.
e. Disagree.
f. Strongly Disagree.

3. Since implementing the Noncognitive Factors Rubric, approximately how many hours of training have you received on noncognitive factors, the Noncognitive Factors Rubric, and noncognitive factors interventions?

a. Less than 1 hour.
b. 1-2 hours.
c. 2-3 hours.
d. More than 3 hours.

4. My grade level team has had conversations around noncognitive factors scoring, and we are aligned in our expectations for how we score our students on the rubric.

a. I am not a regular classroom teacher; I have another role in the school.
b. Strongly Agree.
c. Agree.
d. No Opinion.
e. Disagree.
f. Strongly Disagree.

5. Students in my classroom are properly trained and understand the meaning of each of the indicators and scoring levels on the Noncognitive Factors Rubric.

a. Strongly Agree.
b. Agree.
c. No Opinion.
d. Disagree.
e. Strongly Disagree.

6. As an aspect of implementation in my classroom, students also self-evaluate their progress on the Noncognitive Factors Rubric.

a. I am not a regular classroom teacher; I have another role in the school.
b. Strongly Agree.
c. Agree.
d. No Opinion.
e. Disagree.
f. Strongly Disagree.

7. Careful attention to paperwork and documentation are critical parts of this intervention process, and I understand how to use the data that the rubrics provide.

a. Strongly Agree.
b. Agree.
c. No Opinion.
d. Disagree.
e. Strongly Disagree.

Perception Survey

1. I am supportive of and find value in the use of the Noncognitive Factors Rubric in helping my/our students to grow as students, learners, and people.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

2. The Noncognitive Factors Rubric is effective for growing student noncognitive factors.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

3. The Noncognitive Factors Rubric prompts excellent conversations around the behaviors expected of good learners and promotes student self-evaluation of their growth as students.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

4. The Noncognitive Factors Rubric has helped my/our students to grow as learners and has positively impacted their academic achievement.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

5. The Noncognitive Factors Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of a growth mindset. In other words, they are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort.
    a. Strongly Agree.
    b. Agree.
    c. No Opinion.
    d. Disagree.
    e. Strongly Disagree.

6. Please provide an example or more information to provide context about your answer to the above question.

7. The Noncognitive Factors Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of perseverance when it comes to difficult tasks. In other words, they are more likely to face difficult academic challenges and work to overcome those challenges.

a. Strongly Agree.
b. Agree.
c. No Opinion.
d. Disagree.
e. Strongly Disagree.

8. Please provide an example or more information to provide context about how you answered the above question.

Best Practices/Improvements Survey
Please only answer these final three questions if you are a regular grade-level classroom teacher.

1. Which classroom practices/strategies have had the biggest impact on the Noncognitive Factors Rubric process in your classroom. In other words, which strategies have you found to have the biggest impact on growing noncognitive factors?

2. What modifications, if any, could be made to increase the effectiveness of the Noncognitive Factors Rubric and its usage in your classroom?

3. Is there anything else that you would like to share in regard to your experience and expertise related to the Noncognitive Factors Rubric?

Appendix G

Permission to Adapt and Use the Bailey-Tarver Survey

From: shanta rhodes shantarhds@gmail.com
Subject: Re: Permission to Use and Adapt Bailey-Tarver Survey

Date: April8,2022at3:25PM
To: Dustin Brown dustinleebrown@gmail.com

Hello Dustin,

Yes. You may use and adapt my version of the survey for your study.

I would love to read your dissertation when you are finished.

Let me know if you have any questions or concerns. Good luck on your future endeavors.

Sincerely,

S. Rhodes

On Sun, Apr 3, 2022 at 3:49 PM Dustin Brown <dustinleebrown@gmail.com> wrote:
Good Afternoon Dr. Rhodes,

My name is Dustin Brown and I am a Doctoral student at the University of Missouri-Columbia. My dissertation research is on staff perceptions of noncognitive factor interventions in the elementary school classroom. I am seeking permission to adapt your survey to the study that I plan to complete. I know that your survey is adapted from Dr. Lynn Bailey's Survey, which was also adapted from Dr. Aleada Lee-Tarver, Dr. Joan Rankin and Donna Aksam. The continued use and adaption of this survey tool shows that it is well designed and an excellent tool for garnering staff perceptions. If I do have your permission, I would like to use the adapted survey to garner elementary school staff members' perceptions of noncognitive factor interventions in their school. I would make certain that you receive full recognition for your work and I would properly cite your survey in my dissertation. I will utilize Qualtrics as the electronic tool in which my survey is delivered to participants. The adapted survey would add additional questions, change the wording of a few other questions, and remove some questions completely. In looking for a research- backed survey tool yours most closely matched the design, layout, and similarity of questions that I was looking to ask. Although there are substantial differences in our studies, your research also focuses on implementation of a program. Therefore your survey is very beneficial in helping me to create a survey tool for my study. I apologize for the length of this email, but I wanted to be as detailed as possible to explain what I would like to keep, and what I plan to change, if I am allowed to adapt and use your survey tool. Here is a plan of what I would like to do question by question:

Demographics

1. Add a new first question to solicit staff on their current role in the school (Certified regular classroom teacher, certified non-regular classroom teacher i.e. interventionist, special education, etc, and certified non-classroom staff i.e librarian, counselor, administrator, etc.

2. Keep your Q1 as-is.

3. Keep your Q2 as-is.

4. Remove "Respondent's Certification" and "Respondent's school has" questions. Instead of these two questions add a question that "if you are a classroom teacher, which grade level do you teach?"

Perception Survey (I split this into two parts: "Implementation Survey" and "Perception Survey")

Implementation Survey

1. Adapt Q1 to this: "I am familiar with the Noncognitive Factors Rubric and its use as a tool to support student self-evaluation and teacher feedback around noncognitive factor growth."

2. Adapt Q2 to this: "I received adequate training prior to implementing the Noncognitive Factors Rubric with students in my classroom." 3. I plan to remove your Q3- Q8 and replace them with these:

3. "Since implementing the noncognitive factors rubric, approximately, how many hours of training have you received on noncognitive factors, the noncognitive factors rubric, and noncognitive factors interventions?"

4. "My grade level team has had conversations around noncognitive factor scoring and we are aligned with our expectations for how we score our students on the rubric."

5. "Students in my classroom are properly trained, and understand, the meaning of each of the indicators and scoring levels on the Noncognitive Factors Rubric."

6. "As an aspect of implementation in my classroom students also self-evaluate their progress on the Noncognitive Factors Rubric."

7. I plan to adapt your Q9 to this: "Careful attention to paperwork and documentation are critical parts of this intervention process and I understand how to use these data that the rubrics provide."

8. I plan to remove Q10- Q22 and replace them with:

Perception Survey

1. "I am supportive of and find value in the use of the Noncognitive Factors Rubric in helping my/our students to grow as students, learners, and people."

2. "The Noncognitive Factors Rubric is effective for growing student noncognitive factors."

3. "The Noncognitive Factors Rubric prompts excellent conversations around expected behaviors of good learners and promotes students to self-evaluate their own growth as students."

4. "The Noncognitive Factors Rubric has helped my/our students to grow as learners and has positively impacted their academic achievement."

5. "The Noncognitive Factors Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of a growth mindset. In other words, they are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort."

6. "Please provide an example, an overview, or more information to provide context about how you answered the above question."

7. "The Noncognitive Factors Rubric has helped my/our students to evolve as learners by allowing them to have a stronger sense of perseverance when it comes to difficult tasks. In other words, they are more likely to face difficult academic challenges and work to overcome those challenges."

8. "Please provide an example, an overview, or more information to provide context about how you answered the above question."

Short Answer Response (I plan to adapt this to
"Best Practices/ Improvements Survey
Please only answer the final three questions if you are a regular grade-level, classroom teacher.")

1. I plan to add this question: "Which classroom practices/ strategies have had the biggest impact on the Noncognitive Factors Rubric process in your classroom. In other words, which strategies have you found to have the biggest impact on growing noncognitive factors?"

2. I plan to adapt your Short Answer Q1 to this: "Which modifications, if any, could be made to increase the effectiveness of the Noncognitive Factors Rubric and its usage in your classroom?" (I am leaving it as an open-ended question)

3. I plan to remove your Short Answer Q2 and adapt your Open-Ended Question to this: "Is there anything else that you would like to share in regard to your experience and expertise with the Noncognitive Factors Rubric?"

I plan to keep all multiple choice questions with the following answer choices: “Strongly Agree”, “Agree”, “No Opinion”, “Disagree”, “Strongly Disagree”

Thank you again for your time in reading my rather long email and I appreciate your consideration of this request. Please let me know if I have your permission to adapt your survey tool with the following changes listed above.

Sincerely,
Dustin Brown
Doctoral Student
University of Missouri-Columbia

Cell- 314-614-8128

Email- DustinLeeBrown@gmail.com or dlbtf7@mail.missouri.edu --

Shanta Rhodes, Ph.D.

www.smartwhizsolutions.com

We are what we repeatedly do. Excellence, then, is not an act, but a habit.~Aristotle

Appendix H

Teacher Interview Question Protocol

Hello, and thank you for taking your time to interview with me today. As you know, I am Dustin Brown, and I am the Principal Investigator of certified staff perceptions of noncognitive factors interventions and their perceived impact on growing elementary student noncognitive factors. My goal is to learn about the perceived effectiveness of your school's noncognitive factors interventions on growing student noncognitive factors over time. You have been asked to participate because you have considerable experience as a classroom teacher who implements the Noncognitive Factors Rubric with your students. I will be asking you a series of questions starting with a few "getting-to-know-you" questions and moving deeper into specifics about noncognitive factor interventions in your classroom. Thanks again for spending some time with me. I hope to provide your school with insights into the effectiveness of its noncognitive factors intervention program.

1. Please tell me about yourself and your classroom teaching experience.

2. Describe your experience with the Noncognitive Factors Rubric and noncognitive factors growth in your classroom.

3. Please tell me about your experience with student self-evaluation of their noncognitive factors and subsequent growth. Please provide examples.

4. In general, what percentage of students have increased noncognitive factors scores by one or more levels over the course of an academic year?

5. Generally speaking, in which categories on the Noncognitive Factors Rubric have you seen the most student growth?

6. What impact have these interventions had on student growth in the noncognitive factor realms of academic mindsets and academic perseverance?

(Students with a strong academic mindset are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort.)

(Students with strong academic perseverance are more likely to face difficult academic challenges head-on and work to overcome those challenges through effort.)

7. Have you identified practices in your own classroom that have been successful in growing noncognitive factors over time? If so, what are those practices?

8. Are there any aspects of using the Noncognitive Factors Rubric or growing student noncognitive factors that could be improved in your classroom or school? If so, what are they, and how might they be improved?

9. Is there anything else that is important for me to know or understand related to the use of the Noncognitive Factors Rubric, noncognitive factors growth, or best practices?

Appendix I

Teacher Focus Group Protocol

Hello, and thank you for taking your time to participate in this focus group with me today. As you know, I am Dustin Brown, and I am the Principal Investigator of certified staff perceptions of noncognitive factors interventions and their perceived impact on growing elementary student noncognitive factors. My goal is to learn about the perceived effectiveness of your school's noncognitive factors interventions on growing student noncognitive factors over time. You have been asked to participate because you have considerable experience as a classroom teacher who implements the Noncognitive Factors Rubric with your students. I will be asking you a series of questions starting with a few "getting-to-know-you" questions and moving deeper into specifics about noncognitive factors interventions in your classroom. The focus group format allows for conversation amongst participants and for answers to build upon one other. Thanks again for spending some time with me. I hope to provide your school with insights into the effectiveness of its noncognitive factors intervention program.

1. Please introduce yourself, tell me what grade level you teach, and how much experience you have at this school and in education.

2. Please tell me about your school's implementation of the Noncognitive Factors Rubric and procedures for getting you ready to implement the rubric.

3. Please tell me about the impact that the Noncognitive Factors Rubric and classroom noncognitive factors interventions have had on noncognitive factor growth. If you have specific examples, please share these.

4. Please tell me about the impact that the Noncognitive Factors Rubric and classroom noncognitive factors interventions have had on student academic mindsets.

(Students with a strong academic mindset are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort.)

5. Please tell me about the impact that the Noncognitive Factors Rubric and classroom noncognitive factors interventions have had on student academic perseverance.

(Students with strong academic perseverance are more likely to face difficult academic challenges head-on and work to overcome those challenges through effort.)

6. Based on your own experience, what are some best practices that you have identified in your classroom for growing noncognitive factors?

7. What are some areas that you would suggest being adapted in order to improve this program either in your classroom, at your grade level, or schoolwide?

Appendix J

Peripheral Staff Focus Group Protocol

Hello, and thank you for taking your time to participate in this focus group with me today. As you know, I am Dustin Brown, the Principal Investigator researching certified staff perceptions of noncognitive factors interventions and their perceived impact on growing elementary student noncognitive factors. My goal is to learn about the perceived effectiveness of your school's noncognitive factors interventions on growing student noncognitive factors over time. You have been asked to participate because you have considerable experience as a certified peripheral staff member who directly supports the implementation of the Noncognitive Factors Rubric in classrooms within this school. You have unique insight into understanding the large-scale impact of these interventions. I will be asking you a series of questions starting with a few "getting-to-know-you" questions and moving deeper into specifics about noncognitive factors interventions in your classroom. Thanks again for spending some time with me. I hope to provide your school with insight into the effectiveness of its noncognitive factors intervention program.

1. Please introduce yourself, tell me your current role at this school, and how much experience you have at this school and in education.

2. From your perspective, what impact has the Noncognitive Factors Rubric and classroom noncognitive factors interventions had on student success in your school?

3. Since this implementation began, what changes have you seen in student academic performance and growth? Please provide examples if you have them.

4. Please tell me about the impact that the Noncognitive Factors Rubric and classroom noncognitive factors interventions have had on student academic mindsets.

(Students with a strong academic mindset are more likely to realize that their academic growth is not fixed at a certain level and can be grown over time with effort.)

5. Please tell me about the impact that the Noncognitive Factors Rubric and classroom noncognitive factors interventions have had on student academic perseverance.

(Students with strong academic perseverance are more likely to face difficult academic challenges head-on and work to overcome those challenges through effort.)

6. How does the use of the Noncognitive Factors Rubric and interventions fit within the mission and goals of the school? Have these been successful in helping you to meet those goals? If so, how? Or, if not, why not?

7. Is there any other information that is important for me to know or understand about the rubric or interventions?

Appendix K

Member Check Email Script

Email Subject Line: Teacher Perceptions of Noncognitive Factor Interventions- Interview (or Focus Group) Member Check

Email Body:

Good Morning _____,

Thank you for your participation in the research study over noncognitive factor interventions. I greatly appreciate your time and expertise, and I am thankful for your willingness to participate in an interview (or focus group) with me. I have transcribed your interview (or the focus group's conversation) and have taken the information that you provided me through a process called "open coding." Open coding allows the researcher to view your responses with an open mind in an effort to look for key takeaways, patterns, trends, and important ideas.

A critical aspect of this research study is a follow-up process called member checking. Member checking is an important part of this qualitative study, as it allows for participants such as yourself to confirm or deny what the researcher believes are the key findings from your interview (or focus group). Attached in this email, I have provided you with a document that contains what I believe are the key takeaways from your interview (or focus group conversation). You will have the opportunity to read over the full interview (or your part of the focus group) transcription and to see the codes that I have generated from your responses. You may provide feedback on my interpretation of your responses. This process is extremely important as it allows you to confirm, deny, or provide additional feedback to clarify my understanding of our conversation together. Member checking helps to create results that are more valid and trustworthy to researchers and practitioners.

Please view the attached transcription and codes and provide any and all feedback that you believe is necessary. Thank you again for your time and participation in this process.

Thank you,

Dustin Brown

Principal Investigator

Appendix L

Noncognitive Factors Rubric

Student Grit Score

At River Valley, we believe that a grade should reflect what a student knows, understands, and is capable of in relation to district learning standards. Additionally, we understand that other factors or behaviors are equally important for academic, professional, and personal success. These factors are the building blocks of character, or what we refer to as a student "Grit Score". Students will receive a Grit Score at the end of each quarter of the school year.

Learning Skills	Descriptions	4-Advanced	3-Proficient	2-Still Developing	1-Not Achieving Expectations
Student Engagement	-I am an active participant in class -I listen and speak appropriately -I follow class rules and do not distract others from learning -I recognize areas of growth and improvement in my learning and development as a student.	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Responsibility	-I complete and submit classwork, homework and assignments according to timelines	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Collaboration	-I respond positively to ideas,				

	opinions and values of others -I work equitably in group settings	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Independent Work	-I use work time effectively and follow instructions -I manage workload effectively	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4

Appendix M

Institutional Review Board Approval

Institutional Review Board
University of Missouri-Columbia
FWA Number: 00002876
IRB Registration Numbers: 00000731, 00009014

310 Jesse Hall
Columbia, MO 65211
573-882-3181
irb@missouri.edu

October 03, 2022

Principal Investigator: Dustin Brown (MU-Student)
Department: Educational Leadership-EDD

Your IRB Application to project entitled CERTIFIED STAFF AND TEACHER PERCEPTIONS OF SYSTEMATIC REGULAR CLASSROOM NONCOGNITIVE FACTORS INTERVENTIONS AND THEIR PERCEIVED IMPACT ON STUDENT NONCOGNITIVE FACTORS GROWTH IN ONE MIDWESTERN ELEMENTARY SCHOOL was reviewed and approved by the MU Institutional Review Board according to the terms and conditions described below:

IRB Project Number	2091165
IRB Review Number	376540
Initial Application Approval Date	October 03, 2022
IRB Expiration Date	October 03, 2023
Level of Review	Exempt
Project Status	Active - Exempt
Exempt Categories (Revised Common Rule)	45 CFR 46.104d(1) 45 CFR 46.104d(2)(ii)
Risk Level	Minimal Risk
HIPAA Category	No HIPAA
Approved Documents	Informed Consent & Assent - Consent (Exempt Studies Only): #613989 Other Study Documents - Focus Group Protocol: #612035 Other Study Documents - Focus Group Protocol: #612036 Other Study Documents - Follow-Up Letter/Communication to Participant: #614126 Other Study Documents - Instruments (i.e. surveys): #612029 Other Study Documents - Instruments (i.e. surveys): #613991 Recruitment Materials - Recruitment E-Mail: #612031 Recruitment Materials - Recruitment E-Mail: #612032 Recruitment Materials - Recruitment E-Mail: #612033

Recruitment Materials - Recruitment E-Mail: #612034

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All study changes must be IRB approved prior to implementation utilizing the Exempt Amendment Form.
3. Major noncompliance must be reported to the MU IRB on the Event Report within 5 business days of the research team becoming aware of the deviation. Major noncompliance are deviations that caused harm or have the potential to cause harm to research subjects or others, and have or may have affected subject's rights, safety, and/or welfare. Please refer to the MU IRB Noncompliance policy for additional details.
4. The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date to keep the study active or to close it.
5. Maintain all research records for a period of seven years from the project completion date.

If you are offering subject payments and would like more information about research participant payments, please click here to view the MU Business Policy and Procedure: http://bppm.missouri.edu/chapter2/2_250.html

If you have any questions or concerns, please contact the MU IRB Office at 573-882-3181 or email to muresearchirb@missouri.edu.

Thank you,
MU Institutional Review Board

Appendix N

Permission to Adapt Five Categories of Noncognitive Factors Visual Model

Brown, Dustin (MU-Student)

To: Camille Farrington <camillef@uchicago.edu>
Sat 3/4/2023 5:19 PM

Thank you, Dr. Farrington! Much appreciated!

Thanks,
Dustin L Brown

On Mar 3, 2023, at 2:51 PM, Camille Farrington <camillef@uchicago.edu> wrote:

Yes, thank you for re-sending Dustin. You have our permission to use the figure as adapted in your dissertation. Best of luck in your work!
Camille

On Tue, Feb 28, 2023 at 7:39 PM Brown, Dustin (MU-Student) <dlbtf7@mail.missouri.edu> wrote:
Good Evening Dr. Farrington,

I just want to follow up to see if you had a chance to look at my request. I placed my proposed adaptations in a word document. I hope that you will be able to view the images this way. Please let me know if you need me to resend in another format.

Thank you for your time and consideration.

Dustin Brown

From: Brown, Dustin (MU-Student) <dlbtf7@mail.missouri.edu>
Sent: Tuesday, February 21, 2023 5:39 PM
To: Camille Farrington <camillef@uchicago.edu>
Subject: Re: Dissertation Study Request- Permission to Adapt Figure?

Hello Dr. Farrington,

I am sorry I did not get the images to show correctly on the first try. I put your figure and my proposed adaptation into a Word document. I hope that it should all be visible to you via that method. Thank you again for your consideration.

Dustin

From: Camille Farrington <camillef@uchicago.edu>
Sent: Tuesday, February 21, 2023 2:57 PM
To: Brown, Dustin (MU-Student) <dlbtf7@mail.missouri.edu>
Subject: Re: Dissertation Study Request- Permission to Adapt Figure?

Hi Dustin,
Thanks for reaching out! Unfortunately the images you sent won't open for me, so I am unable to see how you'd like to adapt the figure. Can you try resending in some other format? Sorry about that!
C

On Tue, Feb 21, 2023 at 7:50 AM Brown, Dustin (MU-Student) <dlbtf7@mail.missouri.edu> wrote:
Good Morning Dr. Farrington,

My name is Dustin Brown, and I am a doctoral student at the University of Missouri-Columbia. I am completing my dissertation research on noncognitive factors interventions at an elementary school. Your Five Noncognitive Factors Model has served as the bedrock for the research that I am completing. I am asking for your permission to adapt Figure 2.1, "A Hypothesized Model of How Five Noncognitive Factors Affect Academic Performance within a Classroom/School and Larger Socio-Cultural Context found on page 12 of your 2012 work titled "Teaching Adolescents To Become Learners." My research can contribute to the body of knowledge surrounding noncognitive factors interventions.

Your figure looks like this:

I would like to adapt your figure and use it in my dissertation. My adaptations would like this:

(Sorry, this does not line up perfectly as these are screenshots of my paper, and the note falls on two separate pages.)

My goal with this adaptation is to show where particular intervention aspects and schoolwide programming fit into the bigger picture of how noncognitive factors work together to impact academic behaviors and performance.

As you can see, I give full credit to you and your colleagues for the figure from which this has been adapted.

Do I have your permission to use this adapted version of your figure, as seen above?

Thank you for your consideration.

Sincerely,
Dustin Brown
Doctoral Student- University of Missouri-Columbia

Appendix O
Executive Summary

CERTIFIED STAFF AND TEACHER PERCEPTIONS OF SYSTEMATIC REGULAR CLASSROOM NONCOGNITIVE FACTORS INTERVENTIONS AND THEIR PERCEIVED IMPACT ON STUDENT NONCOGNITIVE FACTORS GROWTH IN ONE MIDWESTERN ELEMENTARY SCHOOL

Dustin Brown

Purpose of the Study

The purpose of this study was to address the gap in research surrounding the lack of best classroom practices for growing elementary student noncognitive factors as an aspect of regular classroom instruction.

Theoretical Framework

Farrington et al.'s (2012) five noncognitive factors model
(1) academic behaviors, (2) academic perseverance, (3) learning strategies, (4) social skills, and (5) academic mindsets.

Scholarly Context Themes-Noncognitive Factors

Importance	How They Work	Promising Practices
• Success in college, career, and adulthood • Markers of student success in school • Better predictor than IQ • Can be grown	• School and classroom contexts critical for growth • All factors impact academic behavior and academic performance • They work independently and reciprocally to impact academic performance	• Interventions have shown success at growing factors • Self-assessment, teacher feedback, and use of rubrics are promising practices

Research Questions

Overarching Question: According to elementary school educators, what impact do schoolwide noncognitive factors programming and interventions have on the growth of student noncognitive factors in the regular elementary school classroom over time?

Underlying Questions:

1. How do elementary school educators perceive the impact of the noncognitive factors rubric in guiding student self-reflection, self-assessment, and self-awareness related to noncognitive factors growth?
2. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic mindsets domain?
3. According to elementary school educators, how do student self-reflection, self-assessment, and teacher feedback impact student noncognitive factors growth, specifically in the academic perseverance domain?
4. According to elementary school educators, which classroom and schoolwide practices most significantly impact student noncognitive factors growth?

Study Setting and Participants

- Qualitative case study, within a bounded system- Midwestern K-5 elementary school
- 18 total participants (of 35 potential)- 12 K-5 classroom teachers, 3 non-regular classroom teachers, 2 certified non-classroom staff

Findings

RQ1: Self-reflection, self-assessment, and self-awareness on factors growth?
- Rubric serves as guideposts
- Self-assessment requires maturity
- Promise of age-appropriate rubric K-2

RQ2: Impact on academic mindsets growth?
- Positive impact
- Process begins in lower grades
- Upper grade students have cognitive maturity to adjust mindsets

RQ3: Impact on academic perseverance?
- Positive impact
- Relationships, conversations, feedback
- Value self-assessment in upper grades
- Process begins in lower grades

RQ 4A: Best classroom practices?
- Organic opportunities-conversations
- Intentional practices-various

RQ 4B: Best schoolwide practices?
- Common schoolwide vocabulary
- Schoolwide messaging and expectations
- Schoolwide motivators
- PLC calibrations around scoring
- The principal as the leader of the program

Overarching Theme

A long, steady process

RQ: Impact of schoolwide programming and interventions on student noncognitive factors growth?
- **Impact**- successful at growing noncognitive factors over time
- **Ownership**- long process that builds from year to year as students mature and advance through program
- **Cumulative**- self-regulation and growth is a long, steady process

A Long, Steady Process- Recommendations

- Provide earlier opportunities for students to self-assess using an age-appropriate rubric.
- Prompt teachers to have more one-on-one self-assessment conversations with students.
- Use self-assessment and conversations to drive noncognitive factors goal setting.

Schoolwide Recommendations	Classroom Recommendations	Recommendations Beyond the Elementary School
• New hire training • Parent training • Continue schoolwide supports- messaging, motivators, meetings, anchor conversations	• Earlier introduction to rubric or parts of rubric • Create picture clues • Create intentional opportunities • Continue organic conversations • Allow K-3 self-assessment	• Work with middle grades teachers to expand program • Calibrate with middle schools around expectations • Vertical sharing of best practices and resources

Reference:

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012, June). Teaching adolescents to become learners: The role of noncognitive factors in shaping school performance. *Literature Review.* University of Chicago Consortium on Chicago School Research.

VITA

Dustin Brown grew up in Festus, Missouri, after having briefly lived in Piedmont and Fredericktown, Missouri. He attended Festus Middle School and Festus High School, where he played football and ran track for four years. After graduating in 2001, he attended Jefferson College, earning an associate's degree. In 2003, he continued his college education at the University of Missouri-St. Louis, majoring in secondary education with an emphasis in history. After a successful student teaching experience at Seckman High School in Imperial, Missouri, Dustin graduated in June 2006, becoming the first member of his family to graduate from college.

Dustin was hired by the Fox C-6 School District to teach social studies at Seckman High School beginning in the 2006-2007 school year. He coached football, track and field, and cross country while teaching a variety of social studies courses over his 12-year teaching career. He also served in various teacher-leadership roles, including professional development lead and being the lead teacher on the school's teacher-leadership team. He enjoyed the relationships that he built with his students and relished the opportunity to teach them how to improve both personally and as learners, using history as the vehicle for learning. During the summer of 2017, Dustin served as an elementary summer school assistant principal, his first experience in administration. In May 2018, he was hired as an assistant principal at Seckman High School, a position he held for four years, leading the class of 2022 successfully to graduation. Dustin was hired as the principal of Hodge Elementary School for the 2022-2023 school year, where he currently oversees a staff of 58 employees and an enrollment of 324 students.

Dustin's love of learning has continued and evolved over the course of his career. In 2012, he graduated with a master's degree in athletic and activities administration from Southwest Baptist University. In 2016, he graduated with a second master's degree in educational administration from Southwest Baptist. In 2019, he was accepted into the University of Missouri's Statewide Cooperative Educational Doctorate Program. He has presented on a wide range of professional development topics, including formative assessment, standards-based grading, Google apps for educators, Stanford History Education Group: Reading Like a Historian curriculum, and others.

Dustin resides in suburban St. Louis, Missouri, with his wife Meghan and their two daughters, Bridget and Grace. Dustin is scheduled to complete his Ed.D. in Educational Leadership and Policy Analysis (Cohort 12) in May 2023.