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### Case Study: Teacher Mindset and Its Impact on Instruction in an At-Risk Classroom

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**Doctor of Education in Organizational Leadership**

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Abilene Christian University  
School of Educational Leadership

Case Study: Teacher Mindset and Its Impact on Instruction in an At-Risk Classroom

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organizational Leadership

by

Michelle L. Rice

April 25, 2021

### **Dedication**

To my amazing staff at Hoover Elementary School. Thank you for embarking with me on a journey to create a school like none other. Your commitment to possess a growth mindset is making an impact on our Heroes every day. I am forever grateful for you!

## **Acknowledgments**

I want to thank my family for their continued encouragement and support. To my wonderful husband Ray: your patience and gentle pushes during periods of frustration through the process were just what I needed to dig deep and surge ahead. You have always encouraged me to be my best and go after my dreams. I am forever grateful for your love and the life we have together. To my daughter Crosstyn: I am thankful for your positivity throughout this journey. You were always there to say, “you can do this, mommy,” and would always lend a listening ear to my research even if you did not understand it all. I pray you have learned from my diligence and hard work that you can accomplish anything you put your mind to if you are willing to work hard.

To my extended family, my dad, Martin, mom, Janice, mother-in-love, Peggy, sister, Janette, and brother, Bill: Thank you for continually cheering me on as you checked in on my progress. You were all only a text away to ask for prayer when it was crunch time. Because of your prayers and belief in my abilities, I was able to accomplish this achievement.

To Dr. Amy Barrios: Your timely feedback and motivation inspired me to be better. Thank you for your confidence in me throughout the process.

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## Abstract

The achievement gap between disadvantaged students and their advantaged peers is a problem that has been a concern since the Brown vs. the Board of Education Supreme Court case in 1954. The problem continues to exist, and little progress has been made in closing the gap. Research shows a teacher's mindset can significantly impact the achievement gap. This mixed-methods case study aims to examine teacher mindsets in at-risk, suburban elementary campuses to determine its impact on instruction. A purposeful selection sample of nine teachers from various levels, experience, and specialties in grades PK-5 took part in the study. The quantitative results collected from the growth mindset quizzes and correlation coefficient revealed (a) five teachers possessed a strong growth mindset; (b) four teachers possessed a growth mindset with some fixed ideas; (c) there was no correlation between a teachers' years of service and their mindset score. The following themes emerged from the qualitative data through semistructured interviews and focus group discussions: (a) teachers' mindsets aid in differentiation to meet students at varying levels, (b) a growth mindset provides flexibility in thinking and an openness to learning and making changes, (c) reflection is a regular practice of growth minded educators, (d) all participants desired to possess a growth mindset, and (e) educators battle the two mindsets (growth and fixed). Implications for schools wanting to focus on teacher mindsets and recommendations for future research are provided.

*Keywords:* growth mindset; teacher mindset; instructional practices; incremental theory; achievement gap

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## **Chapter 1: Introduction**

For years, people have debated intelligence. Some believe there is general intelligence defined by IQ, whereas others believe there are different ways to be intelligent (Fitzgerald & Laurian-Fitzgerald, 2016). McTighe and Willis (2019) indicated that the brain is always changing due to experiences and the environment. Psychosocial skills, or sometimes called noncognitive skills, make up 75% of a person's achievement. A person's IQ only makes up 25% of how they perform (Olszewski-Kubilius, 2013). The psychological factors can matter more than cognitive factors for successful accomplishments (Dweck et al., 2014).

Sousa's (2011) brain research shows that as people learn more, the knowledge they gain helps build the brain's capacity to learn even more. This information demonstrates the concept of neuroplasticity, which is the brain's way of rewiring itself throughout life. Neuroplasticity can work both ways. It creates new connections with effort and learning and weakens or eliminates connections that are not often used (Ricci, 2017). Recent findings in cognitive neuroscience support the idea that intelligence is not fixed but developed through productive interactions of people and their environment (Blackwell et al., 2007).

Teaching is a challenging yet rewarding profession. Educators of elementary children face challenges, including salary issues, hardworking environments, and issues with co-workers, parents, and students as they work to minimize the achievement gap (Kim et al., 2020). The mindset a teacher possesses plays a significant role in their classroom expectations, instruction, and relationships with students, parents, and co-workers (Brooks & Goldstein, 2008).

Effective educators understand they have a lifelong impact on students. Teachers possessing a growth mindset believe all students yearn to learn. If they discover students who do

not have this desire, they know they have the responsibility to adapt and change their practices to draw the student in (Brooks & Goldstein, 2008).

For educators, possessing a growth mindset is critical to their work with students to positively affect outcomes (Ng, 2018). In educational settings, many have adopted the idea of a growth mindset (Khan Academy, 2016). Studies are increasing around teachers' beliefs and the influence it has on their pedagogical decisions and behavior in the classroom (De Kraker-Paw et al., 2017). The view a teacher has of themselves plays a vital role in their development. Mastery and helplessness to learning links to the mindset a teacher possess about their growth (Seaton, 2018). Teachers starting with differing mindsets will start out achieving at the same level, but over time, the one with a growth mindset will begin to outperform the one with a fixed mindset (Dweck, 2009).

Discoveries on the brain have led to an understanding that indicates the reasons why people experience success over time (Dweck, 2008; Perkins-Gough, 2013). It is not how smart we are but instead, the motivation that determines growth. IQ, which is a hard cognitive skill, does not predict new learning or success. Motivated individuals put in the extra effort. This exertion is a soft cognitive skill that helps them experience success. This thought demonstrates that hard cognitive skills are not the only determining factor for favorable outcomes (Blue, 2012).

Motivation and effort are two prefaces of a growth mindset theory pioneered by Carol Dweck (Boyett, 2019). Dweck (2019) wanted people to learn from her research that everyone is capable of significant growth. She wanted individuals to understand that with sustained effort, great strategies, and feedback and coaching from other people, individuals can develop their abilities. Since the introduction of a growth mindset, explorations have emerged, showing that

the brain people are born with can grow and develop into adulthood (Abiola & Dhindsa, 2012; Maguire et al., 2006).

Throughout the 21st century, an inquiry has occurred on the topic of a growth mindset, also known as incremental theory. Noncognitive skills seem to play an important role in outcomes. The information proves having a growth mindset is beneficial. Individuals possessing a growth mindset believe intelligence is malleable, and skills and talents can develop through hard work and perseverance (Patrick & Joshi, 2019). Those with a growth mindset are more likely to exert energy to overcome obstacles (Macnamara & Rupani, 2017).

When facing setbacks, individuals with a growth mindset see the obstacles as necessary and part of the learning process (Ng, 2018). Those who think they can grow their skills through hard work, input from others, and strategies possess a growth mindset. People who have a growth mindset tend to perform better and accomplish more than those with a fixed mindset (Dweck, 2008). Individuals who believe in the malleability of their intelligence respond differently to setbacks and failures. They tend to bounce back readily, unlike those with a fixed mindset (Schroder et al., 2017). In addition to making a comeback after a setback, people possessing a growth mindset are more likely to take on challenges.

Fixed mindsets, or entity theory, believe talents are innate (Dweck, 2016a). Those possessing a fixed mindset are more likely to avoid challenging situations and believe failure results because they have an ability that cannot be changed. These individuals fall into helplessness and lose their effort to try and learn (Macnamara & Rupani, 2017). People with fixed mindsets believe their intelligence is under scrutiny and they failed. Mindsets like this do not believe in growth and the power of "yet." Instead, they get stuck in the here and now. When

fixed mindsets fail, they will cheat instead of study, make excuses, find someone who performed worse than they did or run from difficulty (Dweck, 2014).

During the early 2000s, Dweck's (2019) foundation used information from previous research to begin developing "interventions" to address mindset development and the underachievement in the world. Programs utilized in-person instruction to teach growth-mindset (Dweck, 2019). The first interventions utilized metaphors and exercises to engage and help participants understand how the brain changes with learning. In these interventions, people developed an understanding of how intellectual abilities grow and develop.

Many benefits exist for teachers possessing a growth mindset. Educators focused on growth work on continual development in classroom instruction, pedagogy knowledge, and seek ways to build their capacity through reading, observations, and training. These teachers seek feedback and apply constructive criticism. Instructors with a growth mindset take more risks, persevere through challenges, model this to their students, and encourage them to take risks (Ahmed & Rosen, 2019).

This study focused on utilizing the following organizational, operational definition of growth mindset in teachers. Educators possessing a growth mindset believe they can grow their abilities to

- take the initiative for their learning and embrace new challenges;
- allow challenges and setbacks to fuel them toward the goal;
- put forth the effort to reach mastery and goal attainment;
- reflect on feedback and learn from it to better their practice; and
- gain inspiration and learn from the success of others (Dweck, 2008).



## **Statement of the Problem**

The achievement gap between disadvantaged students and their advantaged peers is a problem that has been a concern since Brown vs. the Board of Education Supreme Court case in 1954 (Kevelson, 2019). The problem continues to exist, and little progress has been made at closing the gap (David & Marchant, 2015). Research shows that the mindset of a teacher can help address the achievement gap. The goal of this study was to examine teacher mindsets in at-risk, suburban elementary campuses to determine its impact on instruction.

Patrick and Joshi (2019) discuss the misunderstandings that exist in teachers' grasp of a growth mindset. Other studies show that teachers possess a growth mindset but do not actualize it in the classroom for long-term benefits (Rissanen et al., 2019). A teacher's mindset, beliefs and practices impact student development (Seaton, 2018). Educator's thoughts and perceptions of their instructional abilities shape classroom practices and influence learning to bring about positive achievement outcomes (Hattie, 2012; Smith et al., 2018).

Educators with a growth mindset will create classrooms focused on goal structures that are more conducive to learning (Trouilloud et al., 2006). Those with a fixed mindset focus on performance over process, creating a high-risk environment (Stipek et al., 2001). Therefore, the type of mindset a teacher possesses affects learning.

Teacher mindsets impact the instructional decisions in the classroom (De Kraker-Paw et al., 2017). While mindsets remain relatively stable, educational interventions can cause them to alter. If brief interventions have made an impact, what would happen with consistent growth mindset instruction (Rissanen et al., 2019)? With this knowledge, teachers must be able to develop a growth mindset to impact pedagogical decisions and classroom instruction.

The research is lacking regarding teacher mindsets and what type of interventions and development needs to take place for teachers to pursue possessing and maintaining a growth mindset (Kraft, 2019). There is a connection between student learning and teacher beliefs, but the research is sparse regarding teacher mindsets, and the training they receive on the topic to bring about impactful change in the classroom (Seaton, 2018). More study needs to occur on teacher mindsets to improve instructional practices. Growing teachers' mindsets will help build at-risk students to become lifelong learners and minimize the achievement gap.

### **Purpose of the Study**

This mixed-methods action research case study examined teachers' mindsets working in at-risk elementary campuses within a large, suburban school district to discover their impact on instruction. Mixed methods research gathers both quantitative and qualitative data and integrates the two for a more comprehensive evaluation (Leavy, 2017). Quantitative data collects numerical data and seeks to explain phenomena (Muijs, 2011). Qualitative research centers around the philosophical orientation, phenomenology, and focuses on the experiences of people from their perspectives (Roberts, 2010). The mixed methods research model fit the study because the quantitative study offered the opportunity to focus on the numerical data comparison between the teachers' mindset score and years of teaching experience. The qualitative research examined teachers' experiences and perspectives of a growth mindset. This study looked to gain understanding into teachers' possession of a growth mindset, their knowledge on the topic, and their perspectives of the growth mindset. The study was action-based research because completion occurred in collaboration with insiders in the school community. Part of the research included a deliberate and systematic reflection process as participants participated in focus groups (Herr & Anderson, 2015).

The growth mindset study population consisted of teachers from three at-risk elementary school campuses in a large, suburban school district. The campuses are identified at-risk due to the high population of free and reduced lunch students and limited English learners. The three campuses that took part in this study have an economically disadvantaged population that is 62% or higher. Their student group identified as second language learners are 40% or higher (Cypress Fairbanks Independent School District [CFISD], 2019).

A purposeful selection sample of nine teachers was chosen from various levels, experience, and specialties in grades PK-5 to take part in the study from the campuses. The selection of the specific nine teachers were identified due to their varying views, understandings, and buy-ins to implicit theories and their possible impact on teaching practices.

Teachers participating revealed their mindset through an on-line mindset quiz adapted from Diehl's (2008) assessment developed from Dweck's (2007) work. Participants also took part in semistructured Zoom interviews. The interview questions centered on perspective, beliefs, and each participant mindset quiz results. Following Zoom one-on-one interviews, participants were broken into two groups to spend time together in a focused-group-discussions considering and discussing the final questions centered on mindsets and their most significant impact. The mindset quiz data, years of service, interview scripts, and focus group discussions, were transcribed, coded, compared, analyzed, and placed into common themes (Saldana & Omasta, 2018).

## **Research Questions**

**Q1.** What mindsets do teachers from large, suburban, at-risk elementary campuses possess, as indicated in a mindset quiz, and how do these scores correlate with years of experience?

**Q2.** How do teachers from large, suburban, at-risk elementary campuses perceive their mindsets affecting instruction?

**Q3.** In what ways did the mindset quiz positively or negatively impact teachers from large, suburban, at-risk elementary campuses personal perceptions?

### **Methodological Approach and Rational**

After much consideration of the topic and keeping parallel a teacher's mindset, beliefs, and impact on instruction, a mixed-methods case study met the needs of this study best. Mixed methods provided the opportunity to integrate both quantitative and qualitative data providing both deductive and inductive designs (Leavy, 2017). The quantitative approach to research focuses on objectivity, control, and precision (Leavy, 2017). According to Muijs (2011), researchers should use a quantitative approach when testing a hypothesis to see if there is a relationship between two things, such as teacher mindsets and years of experience. Qualitative research centers on analyzing life. It is research that is quality-based on human thoughts, interests, interactions, and observations (Saldana & Omasta, 2018). This study aimed to understand teacher mindsets and determine the impact it has on instruction in large, suburban, at-risk elementary campuses. Mixed methods research provides diversity in methodology by providing integrated research questions. This research design offered the opportunity to see multiple perspectives and standpoints on what is important and valued (Leavy, 2017).

Teachers working in the field of education seek to make things better locally, so action research was fitting as well. Saldana and Omasta (2018) indicate that in action research, the researcher, along with the participants work together to develop a specific plan to meet needs that exist in their work. The goal of this study was to understand how teachers can grow their

mindset to make a positive impact on students to minimize the achievement gap within three large, at-risk elementary campuses located in a suburban area.

A case study investigates a person, group, community, or an event in great depth utilizing various sources. This type of study is not the research itself but the method of collecting data (McLeod, 2019). The research from this study was collected through mindset quizzes, interviews, and focus group discussions. These various sources provided an in-depth look into what it takes to build an educator's mindset helping define it as a case study. As an administrator in the district, where the research took place, biases, or predetermined outcomes were avoided.

Confidentiality safeguards were put in place and maintained to ensure all participants felt comfortable providing honest answers. The safeguards being utilized were reminders to all participants that information was kept confidential. Participants were also assigned a number to keep their identities private. Audio and the transcriptions of the recordings were maintained on a computer that was password protected. Purposeful sampling took place to provide varied viewpoints. Teachers participating in the study came from varying backgrounds of experience and exposure to mindset. Those taking part possessed different openness to the topic.

The analysis of the data took on many forms. Although there are many things to consider, the data took on a form of integration (Leavy, 2017). The research from this study integrated the data as the quantitative and qualitative data were brought together and compared (Creswell, 2015).

### **Definition of Key Terms**

**Achievement gap.** This term defined by Kuhfield et al. (2018) and Ansell (2011) as the significant difference in academic achievement that exists between students coming from poverty-stricken environments compared to students who have experienced advantages and

exposure to music, the arts, and other opportunities in life. The achievement gap begins early and only gets more significant throughout the years (NAESP, 2013).

**Action research.** Action Research is reflective and collaborative by nature. This type of study needs deliberate and systematic evidence. It is an idea that change occurs in the setting or to participants of a study (Herr & Anderson, 2015).

**At-risk.** Students identified as at-risk are those who enter school further behind their peers (Bassey, 2016; Foster & Miller, 2007). Those considered at-risk may come from disadvantaged backgrounds, be second language learners, or have learning disabilities (Foster & Miller, 2007). According to Donmoyer and Kos (1993), these students are at higher risk of not completing high school or finishing without the necessary knowledge and skills to be successful.

**Economic disparity.** Also referred to as economic inequality is the unequal distribution of wealth. It is a crucial issue for policymakers (Schaeffer, 2020). It is one of the critical problems impacting achievement and widening the gap (Reardon, 2014).

**Efforts to close the gap.** Research shows that the gap exists between minority and underprivileged students and their higher socioeconomic peers (García & Weiss, 2017b). Beginning in 1965, the U.S. government began to act towards closing the gap by allotting funds to schools to address the issue. Efforts include the Elementary and Secondary Education Act (ESEA) of 1965, No Child Left Behind (2002), and Every Student Succeed Act (ESSA) established in 2015.

**Fixed mindset or entity theory.** A fixed mindset defined is a belief that talents and abilities are set or innate. The thought process of this mindset is that people are born with certain traits (Dweck, 2008). This mindset considers abilities stable or fixed, unable to change, develop,

or impact the academic success (Li & Bates, 2019). Fixed mindsets believe a person is intelligent, or they are not (Fraiser, 2018).

**Growth mindset or incremental theory.** Dweck (2008) emphasized this as the belief that people hold that talents and abilities can grow and develop through hard work, good practices, and feedback. Individuals possessing a growth mindset focus on goals and acquiring new skills and knowledge (Fraiser, 2018). This mindset believes things will develop over time (Sparks, 2019).

**Implicit theories.** Implicit theories refer to the belief people possess in the malleability of different things in each individual and their traits and talents (Iwai & de França Carvalho, 2020). These beliefs impact and influence motivation surrounding emotions, esteem, regulation, conflict, prejudice, aggression, and empathy (Thoman et al., 2019).

**Malleability.** This term refers to the belief that intelligence is flexible. Malleable items can be changed (Center, 2020). Malleability is the belief that intelligence can change with effort and hard work (De Kraker-Pauw et al., 2017).

**Mixed methods research.** Integration of quantitative and qualitative data to provide well-rounded information regarding the research topic (Leavy, 2017). In this study, the data were merged and compared (Creswell, 2015).

**Neuroplasticity.** This term refers to the brain's ability to make connections and create new learning or lose learning when not used (Ricci, 2017). Neuroplasticity is the ability for synaptic dendrites to grow and change over time as learning occurs (Haseltine, 2018).

**Noncognitive skills.** These skills include perseverance, self-confidence, coping with failure skills, ability to regulate emotions, ability to handle feedback and critique, and others

dealing with social, emotional items (Olszewski-Kubilius, 2013). Noncognitive skills are needed, especially for students who have yet to develop their talents and abilities (Ricci, 2017).

**Operating definition of growth mindset in teachers.** Teachers with a growth mindset

- take the initiative for their learning and embrace new challenges;
- allow challenges and setbacks to fuel them toward the goal;
- apply the effort to reach mastery and goal attainment;
- reflect on feedback and learn from it to better their practice; and
- gain inspiration and learn from the success of others (Dweck, 2006).

**Qualitative research.** Research of this type considers people's experiences and makes meaning of their processes (Leavy, 2017). Saldana and Omasta (2018) emphasize that qualitative research is quality-based and centers on human thoughts, ideas, observations, and interactions.

**Quantitative research.** This type of research seeks to collect numerical data. It is suited for research seeking to determine the relationship between things (Muijs, 2011). Quantitative research is inductive and works to build evidence in favor of theories or hypotheses (Leavy, 2017).

**Self-determination theory.** This theory focuses on how people utilize their inner strength and determination to develop personalities (Ryan & Deci, 2017). This theory also supports the thought surrounding a person's curiosity and desire to learn and grow (Orsini et al., 2015).

## **Summary and Preview of the Next Chapter**

The importance of noncognitive skills and mindsets continue to be at the forefront of educators and instruction. If the research shows possessing a growth mindset impacts the decisions educators make in the classroom that impact instruction, then it is essential to



understand teacher mindsets and the correlations between those and their years of experience (Kraker-Pauw et al., 2017). Understanding what it takes to build a teacher's mindset can help educators impact student success. The information gained on this topic will aid in furthering the research on what it takes to build necessary mindsets to impact generations and work to minimize the achievement gap for at-risk learners.

In the next chapter, literature studies are reviewed on the topic of the growth mindset and the achievement gap. In the literature, specific thoughts emerged that were essential for this review. The information gained is paramount to building teachers' mindsets to impact instruction in the at-risk classroom. The developing topics centered on the areas of the following:

- benefits of a growth mindset
- achievement gap
- efforts to close the gap
- economic disparity
- at-risk students
- impact of teacher beliefs
- teacher understanding and training in the growth mindset
- teacher's possession of a growth mindset in the classroom.

The literature provided vital information surrounding these areas to guide the research. It also found a case for further study on building a growth mindset in teachers to create a long-lasting impact on classroom instruction.

## **Chapter 2: Literature Review**

The purpose of this study was to determine teacher mindsets and see the impact their mindsets have on classroom instruction in an at-risk school environment. Data collection for this study included results from teacher mindset quizzes, years of service, semistructured one-on-one virtual interviews, and information obtained in focus group discussions. In addition to these items, the following detailed review of the literature was considered from the disciplines of education, sociology, psychology, business, leisure studies, consumer science, and diversity studies. The examination of theories was reviewed in detail, implicit theories, precisely growth mindset, and self-determination theory. The literature provided vital information surrounding these areas to guide the research.

Most of the research material was obtained through Abilene Christian University's (ACU) online library services. Keyword searches included growth mindset, the impact of growth mindset, implicit theories of intelligence, self-determination theory, fixed and growth mindset, achievement gap, at-risk, below-level, struggling learners, academic achievement, and teacher beliefs. Helpful articles led to different keywords and the search for specific authors from within the studies. Specific authors, sought to gain information from were Carol Dweck, John Hattie, Richard Ryan, Edward Deci, and Jo Boaler. Other studies were investigated to determine authors to focus on the topic to research. In addition to these sources, authors' material that is familiar from the field of education, included the National Association of Elementary Principals' Organization, Annie Brock, Heathery Hundley, and Mary Ricci, were considered. In the beginning, topics and searches were broad. Through more in-depth reading and research, the search narrowed to more profound studies on specific aspects of a growth mindset, including teacher beliefs and impacts in the classroom. A broader understanding of the achievement gap,

efforts to close the gap, and at-risk students were developed. The studies built understanding and provided the knowledge to speak to the topics of implicit and self-determination theory.

### **Theoretical Framework**

Implicit or mindset theories center on the beliefs an individual hold about their talents and abilities. Those possessing a fixed mindset (entity theory) believe abilities are innate, something someone is born with, and is stable and cannot change (Li & Bates, 2019). Others that have a growth mindset (incremental theory) believe in the malleability of the brain and they can grow and improve by learning from mistakes, accepting feedback, and applying effort (Gunderson et al., 2018).

Implicit theory or mindset theory is the belief about the nature of abilities (Warren et al., 2019). Kegan and Lahey (2016) emphasized the development of individuals and their minds. Research coming from the United States shows that maintaining an incremental theory of intelligence or growth mindset aids in success. Mindsets have a profound impact on a person's behavior. This conduct impacts outcomes and is a motivating force (Passmore et al., 2017).

Each of these ideas and theories centers around growth and change, which supports the focus on growing teachers. The idea of growing people is the focus of a growth mindset. These theories support the focus of this study and helped build an action plan to increase teacher growth mindset.

Self-determination theory focuses on motivation (Turner, 2019). It seeks to understand what drives people to action and energizes them to specific behaviors and endeavors (Ryan & Deci, 2017). Motivation activates people to work toward a goal with sustained effort until they accomplish the desired result (Liu et al., 2016). Ryan and Deci (2017) indicated there are three

psychological needs that, when met, bring an optimal opportunity for motivation, well-being, and growth. The three psychological things needed are autonomy, competence, and relatedness.

In a classroom, the self-determination theory focuses on the environment and teacher actions. A student's success depends on how well the teacher meets the student's psychological needs (Kaur & Noman, 2019; Ryan & Deci, 2017). Students are intrinsically motivated when they feel competent, experience autonomy, and can relate to those in their environment (Heyder et al., 2020). Students who experience autonomy in the classroom express they have a voice in their learning, which promotes intrinsic motivation to pursue academic growth. When learners feel competent in their intellect and abilities, they are driven to take on a challenge. Relatedness in the classroom provides a connection that creates an environment safe to take risks and promotes motivation in students (Kaur & Noman, 2019). Self-determination theory spotlights human motivation and personality. It is how people use inner resources to develop, which impacts their interactions with others (Ryan & Deci, 2017).

Implicit theory and self-determination theory guided the research in this study. The literature provided a solid understanding of implicit theories and the power a person's belief has on their behavior (Patrick & Joshi, 2019). It showed that an individual's beliefs motivate them to action (Boyett, 2019). If someone believes they can learn something new or accomplish a goal with effort, an intrinsic determination will kick in and propel them on in their endeavors. It is this type of motivation that supports effort and tenacity when things get complicated (Heyder et al., 2020).

The knowledge of these two theories challenged thinking. It also caused a need for reflection as to what kind of mindsets teachers possess in the classrooms of an elementary, at-risk school environment. It provided insight into the intrinsic motivation teachers possess to

grow and better their instruction and practices. The insights gained created a more profound impact on the learning of at-risk students. These thoughts on implicit theory and self-determination theory supported the direction of the research and aided in this study's conceptual framework.

### **Conceptual Framework**

After discovering theories to support the topic of research, the work began to investigate the conceptual framework. Through reading and study, specific thoughts emerged from the literature. These thoughts were essential to consider for this review. They were paramount to understanding a teacher's mindset, its impact in the classrooms of an at-risk elementary school, and the educator's efforts toward closing the achievement gap. The areas of focus were the benefits of a growth mindset, the achievement gap, efforts to close the gap, economic disparity, at-risk students, the impact of teacher beliefs, teacher's understanding and training in growth mindset, and their possession of a growth mindset in the classroom.

### ***Benefits of a Growth Mindset***

Mindsets heavily influence the way people view the world. A person's belief about the nature of their intelligence (fixed or growth) has been shown to have a tremendous impact on the outcomes of either success or failure (Smith et al., 2018). People possessing a growth mindset look forward to learning, not achievement. Failure for those with a growth mindset is an opportunity for learning that aids them as they try again (Brock & Hundley, 2016).

Dweck (2014) discussed how students received a grade of "not yet" and how this idea allowed individuals to see they were on a learning curve. It provided the ability for learners to comprehend their path into the future. Those that understand they can grow their intelligence take risks and want to learn things instead of fixating on what other people think (Sparks, 2019).

These ideas displayed that a growth mindset sees the effort as beneficial instead of something that does not produce results. Individuals possessing a growth mindset exhibit higher self-esteem and improved performance (Clark & Sousa, 2018). Constructive feedback, even if negative (Dweck, 2006), is something growth mindset-focused people utilize to improve (Saunders, 2013).

Viewing effort in this manner is a powerful predictor of an individual's ability to self-regulate. Self-regulation is a critical skill in life and predicts better academic achievement, professional success, healthy interpersonal relationships, fulfillment, and health (Mrazek et al., 2018). A study focused on neurological similarities and differences between grit and growth mindset showed that those who have a growth mindset could utilize it to help regulate and monitor for errors (Myers et al., 2016). A growth mindset is beneficial for self-regulation. Many people do not realize 75% of achievement comes from psychosocial skills, also known as noncognitive skills like perseverance, grit, resilience, emotional regulation, self-confidence, coping skills when facing failure, and the ability to accept critique and constructive feedback. A person's innate intelligence, IQ makes up only 25% of their level of achievement (Olszewski-Kubilius, 2013). Noncognitive skills or soft skills play a part in a person's success. Growth mindset is considered the number one soft skill in 2020 (NeuroLeadership Institute, 2020).

Scientists have discovered the growth of psychosocial skills depends on deep connections across three categories:

- skills and competencies
- attitudes, beliefs, and mindsets
- character and values.

Each of these areas are interrelated and can be organized as cognitive, social, and emotional. The cognitive portion of learning allows individuals to set goals, attend to those goals, and persist until the goal is attained. Social skills aid in relationship-building through collaboration, utilizing conflict resolution techniques and navigating social interactions and situations by reading social cues. The emotional competencies help in recognizing and managing emotions and identifying others' emotions (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

Learning and growth require the integration of all of these three skill sets. People are not born with these aptitudes. The development of these can occur over time with interactions and interventions. These abilities can be taught and are beneficial for overall success (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

Possessing a growth mindset acknowledges that one knows that abilities can be developed (Dweck, 2014). Individuals possessing this type of mindset believe in the malleability of intelligence. They know they can grow and change through risks and failures. It is through blunders that they gain motivation to keep going and continue learning (Rhew et al., 2018). Those with a growth mindset acknowledge the need to change, risk getting out of their comfort zone, and face new challenges. It is their mindset that helps them persevere (NeuroLeadership Institute, 2020).

Individuals possessing a growth mindset self-regulate their learning and cope with academic tasks (Ng, 2018). This self-regulation allows individuals to direct attention, control moods, and behaviors to line up with goals (Mrazek et al., 2018). A growth mindset is a brain on fire, engaged, and working to figure things out. When mistakes occur, they learn from them and

make corrections (Dweck, 2014). These individuals possess the self-discipline needed to accomplish hard tasks, coupled with the belief that they can meet their goals (Witter, 2013).

A student's belief in intelligence plays a tremendous role in their academic success. It impacts how they experience school. Students with a fixed mindset worry about school and have a fear of failure. For these students, a school is a threatening place. On the other hand, students possessing a growth mindset are excited about school and look forward to the challenge as they embrace mastery. A school is a motivating place to growth mindset individuals (Romero, 2015).

People thrive in a growth-minded environment and display a deeper engagement in work. Hewlett Packard (HP) launched a growth mindset program with its employees in 2015. Through this work, 88% of employees indicated they felt a sense of belonging at work compared to 67% in the control group. Eighty-four percent of HP's workers said they would recommend it as a place for employment compared to 64% of the control group. In addition to these results, their employee engagement scores jumped 22% in a year (NeuroLeadership Institute, 2020).

In one study, women and minorities facing issues of diversity took part in learning about mindset manipulation. Following the intervention, participants completed an evaluation of their learning. Results from the research showed more positive outcomes when facing diversity challenges. Researchers noted this was because individuals possessed the belief that people could grow and change (Rattan & Dweck, 2018).

Students participating with mindset manipulation as an intervention before assessments showed those in the growth mindset group experienced better success postfailure than those in the fixed mindset group (Li & Bates, 2019). Smith et al. (2018) conducted research where they manipulated feedback from teachers to students to reflect a fixed or growth mindset and how it impacted students' beliefs on IQ.



An online growth mindset intervention impacted 9th graders positively and showed strong predictors of high school graduation. The intervention reduced self-reported fixed mindsets showing consistently throughout all student subgroups (Quay, 2019). The process utilized on these students showed that a low-cost intervention that does not take much time made significant gains in academics in a group of students who are evaluated rigorously (Yeager et al., 2019).

Transitioning to college can be difficult for students. Many incoming first-year students worry about their academic success, as well as if they will belong (Hennessey, 2016). To face these concerns head-on, Yeager et al. (2016) sought to see if online exercises would help prepare students for their college campus entrance. The intervention included older students sharing their challenges, both socially and academically. Then incoming students reflected on what they heard and how challenges are typical as someone transitions into something new. The results of the study showed improvement in retention, academics, and social assimilation for first-year minority and first-generation college students. It also showed a reduction in the achievement gap between students of color and first-generation (Hennessey, 2016).

Through intensive interventions, manipulating mindsets can alter cognitive effects and the behaviors of participants (Mrazek et al., 2018). Utilizing a growth mindset can aid in changing a person's thoughts. This is one way to promote critical growth in academics and life (Quay, 2019). Much research exists on the benefits of possessing a growth mindset for positive results.

A growth mindset is beneficial for an individual's success. People who maintain this type of mindset prove to be more successful over time. Their success is earned by their ability to receive and respond appropriately to feedback, as well as utilize it to propel them towards

growth. Those possessing a growth mindset see struggles as opportunities to become their best, instead of viewing the difficulties as destructive to them and their success. Mindsets can be changed and manipulated through interventions. Interventions that have been researched have proven favorable and cost-effective.

### ***The Achievement Gap***

Students in the United States underperform academically and placed 17th out of 34 countries in reading literacy. This information on students' underperformance and the achievement gap between at-risk students and their more exposed peers is concerning (Schmid, 2018). The achievement gap is defined as the difference in average scores of students from different racial backgrounds or those coming from homes of varying income levels (Kevelson, 2019). This gap in student achievement levels has been a concern since 1954 when the Supreme Court determined that segregated schools were unequal and unconstitutional in *Brown vs. the Board of Education* Supreme Court case (Kevelson, 2019).

There is a divide between students of color and economically disadvantaged compared to others from more advantaged backgrounds because of the gap in achievement. It is the topic of many discussions, studies, and controversies. In the 1980s, the United States saw a drop between the gap between blacks and whites. However, since that time, little to no progress has been made. Minority students continue to underachieve, causing concern (David & Marchant, 2015).

The achievement gap in the United States remains as significant today as it did when the Coleman (1966) Report was written. As a result of that report, the nation launched tremendous efforts to address the gap (Hanushek et al., 2019). The country spends billions of dollars each year, making every effort to diminish the divide. It is the goal of the United States to level the playing field and make available to all students every opportunity to grow and academically

succeed (David & Marchant, 2015). It is estimated that at the rate, the United States is going toward closing the gap, it will take two and a half centuries to see results (Dickinson, 2016).

Students in the United States underperform compared to other countries. The achievement gap exists between the underprivileged and minority students compared to their privileged counterparts. The United States spends a large amount of money each year to close the gap. Despite these efforts, progress has not been made. All the efforts being made will take a monumental amount of time to make any headway toward the goal of closure.

### ***Efforts to Close the Gap***

The Elementary and Secondary Education Act (ESEA) was enacted in 1965. ESEA committed to providing equal and quality opportunities to all students (Brenchley, 2015). Established by Lyndon B. Johnson, this act was foundational in bringing attention to the nation the need for education to address the poverty disparity (Paul, 2016). President Johnson believed in equal educational opportunity for all and emphasized that it should be the nation's number one goal (U.S. Department of Education, 2020).

Through ESEA, the federal government provided new grants for school districts serving poor students but still empowered states local control of education (Brenchley, 2015). Grants provided were attached with the expectation of high standards and accountability. Funding received could be utilized for professional development, instructional materials, resources to promote education, and build parental involvement (Paul, 2016). ESEA remained in play for 37 years and continued to increase resources devoted to education as other presidents amended the act (Brenchley, 2015). It was the hope that through efforts put in place by ESEA that the U.S. would see results in achievement for the underprivileged, but the results were not seen (Paul, 2016).

In 2002, No Child Left Behind (NCLB) was signed into action by President George W. Bush. NCLB was a reauthorization of the ESEA. It amplified the federal role in holding schools accountable for achievement outcomes (Klein, 2015). This act sought to expose gaps among minorities and disadvantaged students (U.S. Department of Education, 2020).

In NCLB, standardized tests showed how schools were performing. Tests were measured against the achievement bar set by Title 1. The goal of Title 1 funding focuses on closing the gap in all subject areas of students from low-income households. Schools had to publish a yearly report card detailing achievement. NCLB held schools accountable through harsh measures. If they failed to meet adequate yearly progress, corrective actions would be implemented (Paul, 2016). NCLB also required teachers paid with Title 1 funds to be highly qualified (Paul, 2016). If states chose not to comply with the requirements, they would not receive federal Title 1 funding (Klein, 2015).

NCLB put steps in place to expose gaps and started a critical national discussion. This act was necessary for protecting students' civil rights (Brenchley, 2015). It also ensured quality education for all students, but its implementation lacked, which brought much disapproval of the law (U.S. Department of Education, 2020). After six years, teachers, parents, school leaders, and elected officials realized that NCLB was holding schools back from progress (Brenchley, 2015).

In response to the criticism of the flawed system, a reauthorization of NCLB was set in 2007. Congress did not make any changes to the act, and it remained unchanged until 2012. In 2012 the Obama administration began to allow states more flexibility if they demonstrated specific focus areas. States had to exhibit their adoption or plans for college and career readiness standards and assessments, accountability systems focused on low-performing schools, and the implementation of evaluations and supports for teachers and principals (Brenchley, 2015).

On December 10, 2015, President Barack Obama signed into motion the Every Student Succeeds Act (ESSA), which replaced the controversial NCLB act (Ujifusa et al., 2019). ESSA reauthorized the 50-year-old ESEA, which demonstrated the commitment the nation had to equal and quality education for all students (U.S. Department of Education, 2020). ESSA provided states with more flexibility in their approach to school improvement (Woods, 2017). States now had the authority to oversee school improvement, teacher evaluations, and funding transparency (Ujifusa et al., 2019).

ESSA allowed states to make their decisions but had specific requirements they must adhere to in the law. States still had to submit a peer-reviewed accountability plan with at least four indicators. Every plan had to have long- and short-term goals addressing proficiency on tests, English-language growth, and graduation rates. Goals had to address those groups indicated as furthest behind. They also had to indicate that they would close the academic gap and grow the graduation rate. Low-performing schools and subgroups had to be identified, and intervention provided. Standardized testing also remained in the law for students in grades 3-8. Districts could utilize nationally recognized tests for high schools after receiving their state's permission (Klein, 2016). ESSA transferred much power back to the states and communities. It put education back in the hands of teachers, parents, and school authorities. Enacting local control did not release schools from the rigor and responsibility but provided a broader range of distribution. This dissemination now included the influence of every adult that impacts a child's world (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

Four years after the signing of ESSA, and school districts are still in the process of the law's implementation. Members from the National Education Association (NEA) indicated that

four years is a long time for students and parents to wait for equality and quality (Long, 2019). ESSA is up for reauthorization in 2020-21, and Congress is supposed to reexamine the bill (Williams, 2019). The act was designed to fix the wrongs brought about from NCLB, but the results have not been observed (Understanding ESSA, 2019).

Despite efforts throughout the years, underprivileged students continue to struggle to make progress. Success in the U.S. educational policy measures is limited, and the achievement gap remains. García and Weiss (2017b) indicated that ESSA provided opportunities to educate the whole child, which points to some good results. The support for the efforts of the whole child approach that policymakers can do in advocating for students is to seek integration of learning and development. They can also reframe school expectations. The Aspen Institute National Commission on Social Emotional and Academic Development (2019) recommends policymakers reframe expectations into six broad categories. These categories include:

- create a clear vision that broadens what student success looks like to encompass and emphasize the whole child;
- establish learning spaces that are safe and supportive for all;
- ensure instruction encompasses social-emotional learning and is embedded in all academics and best practices school-wide;
- increase the capacity of adults to understand child development;
- allocate and align resource within the community that support the whole child; and
- form clear and deeper connections to research and discover different and new ways for how research is completed.

Policymakers can also provide resources to schools as they collaborate with fellow policymakers, educators, parents, and researchers (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

Policymakers must address a more significant issue of economic disparity in our nation to close the gaps in opportunity and achievement (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019). Economic disparity is an issue that begins at home and the most significant cause of the achievement gap. Teachers that possess a growth mindset face challenges head-on, including educating and building the whole child who is identified as at-risk. This mindset can help address the gap because growth minded educators will not give up, even when teaching the most challenging learners.

The United States has gone to great lengths to close the achievement gap. Beginning with Lyndon B. Johnson in 1965 and continuing to the present, every president since has implemented some educational reform to impact student learning. Each effort has provided funding and guidelines for schools to use and implement. Regardless of these efforts, the achievement gap remains and does not indicate that it is getting smaller.

### ***Economic Disparity***

Income inequality has increased tremendously throughout the past century (Hanushek et al., 2015). According to the 2012 Census, 20% of children, over 16 million, were living in poverty. This number was a steep increase from 1970 when the rate was 15% (Duncan & Murnan, 2014). David and Marchant (2015) indicated that in their study on achievement gaps in the U.S., the poverty gap had increased for every subgroup they studied (white, black, and Hispanic).

A student's family background impacts the child's development, including physical, social, and academic factors. Children raised in poverty have a higher risk of trauma and health problems that can impact brain development (Hanushek et al., 2015). The declining incomes of low-income families affect maternal stress, mental health, and parenting. Each of these is critical for children living in those homes. They influence what kids need to lead fulfilling lives and make their way out of poverty (Duncan & Murnan, 2014). The United States has a large and growing disadvantaged population. These underprivileged families are only able to meet the needs of their homes, inconsistently and sporadically (Hanushek et al., 2017).

This information brings concern for national competitiveness. Countries with higher academic rates have better economies and experience more growth (Hanushek et al., 2015). America relies on families to grow and nurture their children. The school then comes alongside the family to partner with them and level the playing field to help overcome the income-achievement gap (Duncan & Murnane, 2014).

Schools must recognize that students arrive at school from varying backgrounds. Those from backgrounds of poverty do not have access to housing, income, and healthy development. When they attend school, these items can be compounded because they attend schools with fewer resources, disruptions, lower expectations for learning, and environments that do not create engaging learning experiences (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

The increase of those living in poverty would not be as big of a concern if the education system could level the playing field for disadvantaged students. If schools could address the gap, it would help students reach past their home situation. This ability would aid in lowering the income inequality rates for the future (García & Weiss, 2017a). Duncan and Murnan (2014)



questioned if income inequality has caused schools to lose their effectiveness in addressing this issue because of the socio-economic impact it has had on families, neighborhoods, and schools.

The economic disparity directly impacts student achievement (Hanushek et al., 2015). Low educational achievement impacts prospects for economic gains and leads to generational poverty for the future. The relationship between economic disparity and educational inequality goes against the American dream. When this happens, society fails as a whole (García & Weiss, 2017a).

A student's social class is one of the main predictors of academic success. The gaps by social class begin early and do not close throughout future years (García & Weiss, 2017a). Children that have someone read to them one time a day before kindergarten enters school with a vocabulary of 290,000 more words than children who were not read to daily (Ohio State University, 2019). Students who hear more words are better prepared for starting school. Those entering with more exposure to vocabulary will, in all probability, pick up reading skills quicker (Grabmeier, 2019).

Parents from higher economic backgrounds spend approximately 1,300 more hours with their children than lower-income families. During these hours, fathers and mothers expose their kids to things outside the home, such as museums and art galleries. This time of exposure to other types of learning builds background knowledge that will help students when reading more complex texts throughout their school (Duncan & Marnan, 2014).

Children from higher economic status homes can afford to buy books, technology devices, afford more extensive child care, and expose their students to the arts, summer camps, and private schools (Duncan & Marnan, 2014). These experiences create an advantage for these students over the underprivileged who do not have a chance to participate. This information may

explain gaps in prior knowledge, which is necessary for academic success (Duncan & Marnan, 2014).

The socio-economic background of a child impacts them for their entire life. Children being raised in lower-class homes do not have the opportunities or exposure to materials, good health care, and nutrition, activities, and experiences. This lack of privileges and needs affects their academic success. Schools struggle to level the playing field to meet their learning needs. The population of low-income families is increasing in the United States. This increase in disparity impacts the competitiveness of the country because educated people build stronger economies than those that are uneducated.

### ***At-Risk Students***

The Glossary of Education Reform (2013) distinguished at-risk students as learners or groups of learners that have a higher probability of failing or dropping out of school before completion. Educators apply this term when circumstances get in the way of a student's ability to attend and complete school. Conditions that could get in the way include homelessness, teen pregnancy, domestic violence, incarceration, learning disabilities, behavior problems, retention, or other factors. Each of these adversely affects students and keeps them from educational attainment (Glossary of Education, 2013). Poverty and inequality are the roots of social issues that include poor health and lower life-expectancy (García & Weiss, 2017b).

In education, student's socio-economic backgrounds are the most significant predictor of their academic success (García & Weiss, 2017b). At-risk students possess a sense of helplessness that is hard to move past. When looking at the disadvantaged population, it is important to show sensitivity to external constraints and hardships that may pose issues for participants. These

factors may keep individuals from moving past a certain level. However, these conditions could also be a motivation for some (Chao et al., 2017).

Research exists, showing at-risk students enter school further behind their more advantaged peers. The achievement gap begins early and continues throughout a student's educational years and beyond (García & Weiss, 2017b). The income-achievement gap is big and significant, statistically beginning in kindergarten (Reardon, 2013). Students from less advantaged areas, those diagnosed with reading deficiencies, and second language learners can receive interventions that may help. Even though they catch up to their more advantaged peers, students continue to struggle with reading long-term (Foster & Miller, 2007).

At-risk students may lack a sense of belonging. This insufficiency can divide their cognitive focus while at school as they wonder if they fit in and try to learn the academic material that is being presented (Stroman, 2018). There can also be a lack of trust when receiving feedback from their instructors. This mistrust can occur because students might worry that the thoughts of the critique are biased against them. If students have that view, they will not respond well to the feedback or instruction (Mindset Scholars Network, 2018).

Relationships are critical between teachers and students, especially for students that are at-risk of producing poor academic results (Wacker & Olson, 2019). There is a link between secure student-to-teacher connections and a more positive learning culture, which creates deeper engagement in the learning. This bond leads to higher academic outcomes and builds students who are better socially and emotionally developed. Students that have evolved in this way are willing to take on challenges (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

It is essential to help students succeed by boosting their social-emotional intelligence, building their endurance, and changing their attitudes about school and learning. This shift begins by educators creating places of belonging (Stroman, 2018). A sense of belonging comes through relationships. These are crucial for at-risk students to bring about academic success.

Connectedness also comes through critical feedback that teachers provide. Growth minded educators drive out bias and build trust with students (Ray et al., 2019). These educators' express critique to at-risk students and can minimize their worry for bias by letting them know they have high expectations for everyone. Then they must assure the student they are providing specific feedback to them because they see their potential. Students must know the teacher believes they can meet the requirements (Mindset Scholars Network, 2019). This knowledge helps build trust and a change in the thinking of struggling learners. It creates a mindset that is vital for at-risk students. Students filled with hope view challenges with an "I can" attitude, which is a good predictor for academic success (Witter, 2013).

A teacher possessing a growth mindset and sharing that message might be at odds with some at-risk students. This difference in perception may happen because disadvantaged students experience a sense of helplessness and lack an understanding of self (Chao et al., 2017). Growth mindset focused teachers are known to be flexible, maintain high expectations, be communicative, ask questions, provide feedback, build great relationships, value mistakes while fostering independence, and providing equitable treatment to every student (Clark & Sousa, 2018). Educators like this look past disadvantage and work to develop the whole child.

Teachers play the most significant role in a student's academic achievement at school (Mizrav, 2019). Assigning effective teachers to at-risk students can impact the racial income gap and aid in closing the gap in five years, according to Hanushek (2014, p. 17). Emotional support

from a teacher affects learning outcomes positively through classroom climate or teacher-student rapport. This factor influences a student's motivation (Nurmi & Kiuru, 2015).

At-risk students start behind in their school career. Children from less advantaged backgrounds may experience many setbacks. These obstacles can discourage them from trying or taking risks. At-risk students may lack a sense of belonging at school. This deprivation may come because they believe their teachers are biased against them. Teachers have an immense impact on student success. The feedback a teacher gives an at-risk student can build trust as they express their high expectations and the potential they see in the child. Teachers possessing a growth mindset look past where a student comes from and sees what they can be.

### ***Impact of Teacher Beliefs***

The achievement gap and at-risk student performance have caused teachers to be in the spotlight. To aid in reducing the gap, researchers are studying certification and preparation programs, effective practices, and teacher characteristics and beliefs (Schmid, 2018). Teacher beliefs combine thoughts, ideas, perceptions, and values. Those beliefs also consider the footprint they leave on student learning (Vartuli, 2005). Up until the 1970s research centered on teachers focused on their observable behaviors and the products displayed from student learning. It has since been recognized that the beliefs a teacher possess regarding teaching and learning, themselves, and their students set the tone for how they approach their work (Erkmen, 2012).

Research has shown that a teacher's social-emotional competencies impact their classroom. The beliefs a teacher possess in the three psychosocial areas of cognition, social, and emotional matter regarding instruction. The teachers' attitude to their work will either increase or decrease the quality of learning experiences they provide for their students each day (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

Developing a teacher's social-emotional competencies offers many benefits. Increases in these skill sets add to the well-being of educators and decrease stress and burnout. It can also aid in minimizing the turn-over rate of teachers. Educators with solid social-emotional skills also indicated greater job satisfaction because students were more engaged, which brought about more academic gains (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019).

A teacher's social-emotional well-being is vital as educators play a critical role in students' social-emotional development. They help create a sense of belonging for students through the belief they have in their students (Mindset Scholars Network, 2019). If students feel connected and have a positive sense of self, their academic achievement is impacted. This connectedness brings about a better chance of completing school. Teachers need to build a sense of beneficence so that students know they believe in them and want the best for them (Wacker & Olson, 2019).

One study by Hedrick et al. (2004) showed that teachers did not utilize strategies they believed would aid in student success. Other research conducted by Poole-Christian (2009) revealed that teacher practices contrasted with their beliefs. Both studies indicated it could be due to circumstances outside the educator's control, such as state, and federal mandates. Studies have shown that teacher beliefs impact their instructional practices and student learning (Smith et al., 2018). This understanding provided insight that teacher views need to be considered in the instructional setting.

Just as the educational system shapes student mindsets they are a part of, the structure also impacts teacher mindsets. It is easy to blame teachers for their beliefs. However, it is imperative to understand that school systems have social norms and policies that may make it

hard for teachers to break free and put their true beliefs into practice. If teachers are given the right supports and the opportunity to reflect on their beliefs, the bridge can be gapped, and mindsets can change (Wacker & Olson, 2019).

Research by Rubin et al. (2019) specified that teacher beliefs about the nature of intelligence could impact students in unseen ways. The thoughts educators possess about intelligence aided in shaping the views students had about their abilities for learning. Students that viewed their instructors as specialists or geniuses put their teachers in a place of power and influence over student mindsets (Blair et al., 2016).

A teacher's belief on if intelligence is fixed or malleable influences their students. The educator's perspective can have a profound impact on the achievement gap (Wacker & Olson, 2019). Research in secondary school indicates the beliefs a teacher possesses shapes student beliefs about learning (Wacker & Olson, 2019). Students can have different attitudes about learning in varying classrooms. These differences trace back to teacher beliefs, instructional practices, and the environments they create (Allensworth et al., 2018).

A study by Canning et al. (2019) discovered the achievement gap for minority students was two times as large for those in classes instructed by fixed mindset professors compared to those in classes led by a growth-minded facilitator. This study was the first university-wide study that focused on faculty beliefs about IQ. The study revealed that classes taught by professors who possessed a growth mindset had better academic success, especially in minority students. Students in the classes of growth-minded instructors also indicated they had a more positive learning experience. This experience led to deeper student engagement and a motivation to do well in the class (Canning et al., 2019). This research acknowledges the importance that educators must understand the growth mindset and employ its use in their classrooms. Teachers

set the classroom culture and have the power to shape a student's motivation, engagement, and success. A teacher with a growth mindset can create a culture that blossoms with student interaction and development (Hennessey, 2019).

Individual teachers can bring about high-level achievement, even in low-performing schools. Research on teacher beliefs by Schmid (2018) showed the teachers experiencing academic gains with their students in low performing schools displayed certain beliefs and characteristics. Each teacher believed all students could and would learn. In addition to the students learning, the teachers believed the learning reflected on the instructor. This belief drove the teachers to not give up on their students but pursue their academic growth with tenacity. The participants also acknowledge the importance of professional growth. Each one took part in on-going learning opportunities. Teachers in the study declared that instruction must be appropriate in order to lead to student success.

Jager and Denessen (2015) indicated teachers' beliefs, attention, and interactions with students differ between low and high achieving students. They emphasized the thought that teachers must remain aware of their attributions toward individual students. All interactions of this sort determine student-behavior, which impacts achievement. Instructional practices do not just happen. Instead, they are based on and impacted by the beliefs of teachers. Teachers must be aware of their viewpoints (Jager & Denessen, 2015). Research by Hur et al. (2015) expressed the need for more professional development for teachers focusing on beliefs and attitudes toward children to build more awareness.

Students are incredibly attuned to their teacher's viewpoint of failure. Haimovitz and Dweck (2017) expressed that students know if a teacher avoids it or sees it as a way to grow and learn. Teacher beliefs and students' innate math abilities were addressed in a study by Heyder et



al. (2020). Through their research, it was discovered that teachers who possess a fixed mindset might react to low grades in a way that suggests incompetence or the inability to redeem the grade. These beliefs may also affect the way students see their success in the future. This mindset and the teacher's response take away from all areas of a student's intrinsic motivation. It leaves the student feeling incompetent, lacking autonomy, and relatedness within the classroom.

Teachers influence students in more ways than academics and content. The beliefs educators possess, play a significant role in instruction (Hur et al., 2015). Hattie's (2012) research indicated the importance of teacher beliefs and how they have the most profound impact on student achievement. However, the research was lacking in how teachers take the noncognitive skills they have and implement them into daily practices (Patrick & Joshi, 2019). The literature was also inadequate in its focus on teachers' mindsets (Patrick & Joshi, 2019).

A teachers' beliefs and mindset impact their actions. The actions a teacher makes in the classroom either inspire or sabotage a message of growth, unity, persistence, and praise (Hennessey, 2019). The messages a teacher sends and the classroom experience they provide shape the psychological side of schooling for students which impacts motivation. All of this affects academic outcomes. Interactions between educators and their students are multifaceted. More research needs to occur on the mindsets of teachers to determine the type of classroom culture they create and the influence it has on student academics.

Some school systems are working to deploy the research on teacher beliefs into their classrooms to instill positive thoughts about learning with their students. In these environments, teachers utilize positive verbiage with young students like "kiss your brain" and encourage older students to look for progress, not just errors. Teachers take part in crews to build camaraderie and spend time in monthly professional developments to reflect and analyze walk-through

feedback. Feedback is provided in an email and purposefully looks for positive trends as well as areas for improvement. The goal is to reflect the growth mindset messages to teachers that they want to see them sharing with students (Wacker & Olson, 2019).

Teachers' beliefs and practices came to the forefront within the San Francisco Unified School District as they worked to overcome set mindsets in math. Many teachers possessed the thought that some students are born with math abilities, while others are not (Wacker & Olson, 2019). Researchers who studied the school district emphasized teacher professional development focuses on studying practices, watching videos, and seeing work samples. This professional development fell short because teachers were not encouraged to change their approach to learning. When teachers in the study participated in online and in-person sessions about complex instruction and how the brain learns, there were significant gains in best practices in instruction and student test scores (Anderson et al., 2018). The study revealed that mathematics teachers must change their mindset regarding their relationship with math. A teacher in the study emphasized that the mindset is the most powerful thing, not just for the students but also for the educator (Wacker & Olson, 2019).

A teacher's beliefs impact the decisions made in the classroom. What teachers think determines how they interact and relate to the students in their charge. The beliefs of a teacher create a classroom culture. The environments educators develop can build or defeat a student's intrinsic motivation. The thought processes of teachers are also seen on display through their planning and instruction. If teacher beliefs play such a pivotal role in the classroom, the type of mindset a teacher maintains is critical.

### ***Teacher's Understanding and Training of a Growth Mindset***

In a study conducted by the Education Week Research Center (2016), 77% of teachers were extremely familiar or familiar with a growth mindset. Only 4% of teachers surveyed indicated they were not familiar with the topic at all. Forty percent (40%) of the educators surveyed indicated their desire for more training on the subject. Sixty-seven percent (67%) of the respondents said they were not adequately trained in their preservice education for this matter. Another 52% expressed that the in-service training they had experienced did not prepare them to embrace a growth mindset and implement it in the classroom. Fifty-three percent (53%) delineated growth mindset as vital to their classroom instruction for student achievement. Teachers taking part in the survey ranked growth mindset over motivation, teacher quality, and campus culture (Blad, 2016).

Information obtained from the Education Week Research Center Survey (2016) indicated that teachers are aware of the growth mindset and its importance. However, the survey also shows that teachers lack training. There was not much literature to support if teachers have a clear understanding of implicit theories. There was also minimal information on what training opportunities exist for teachers on the topics of growth and fixed mindsets.

Enthusiasm and support are increasing for the growth mindset. This fervor excites researchers who made the concept known, but they have concerns. Concerns include teacher training that must occur so that growth mindset can actualize in their classrooms (Blad, 2016). Experts worry that teachers will misinterpret and undermine the growth mindset's effectiveness without proper training (Education Week Research Center, 2016).

Dweck (2016b) indicated her concern for false mindsets in an interview with Gross-Loh. Dweck expressed a false mindset is when one does not possess a growth mindset but says they

do. It can also occur when a person does not truly understand what a growth mindset is or misunderstands the core idea of the topic. Dweck worried teachers state an understanding of growth mindset but are simplifying it to only the effort students put forth. What teachers should be teaching and applying in their instruction is the focus on learning something new, trying hard, taking risks, and learning from mistakes. Dweck (2016b) continued to express that when educators possess a false mindset, they distort the work, losing the impact it can have on student achievement.

Due to these concerns for lack of understanding and training on implicit theories for teachers, researchers are conflicted. They wonder how to proceed with asking teachers to seek more training without losing their enthusiasm. Without sufficient research, growth mindset could become another buzzword in education (Blad, 2016). The Project for Education Research That Scales (PERTS), a research center within the psychology department of Stanford University, set out to help with the conflict by creating a diagnostic tool. This tool allows teachers the opportunity to take part in free online training. Teachers learn through the courses how to determine if their classroom practices reinforce implicit theories and implant the growth mindset in the classroom (2020).

Teachers must have knowledge and understanding regarding implicit theories. A teacher needs to be aware of the mindset they hold as they may be teaching in alignment with their beliefs (Jonsson et al., 2012). Implicit theories impact a teacher's interpretation of social information in the classroom. It also affects their pedagogical choices. The mindsets educators hold, shape the culture of their classroom. Students can also pick up on the mindset affecting achievement and impacting student behavior (Rissanen et al., 2018).

The literature revealed a small number of training opportunities for teachers. It also showed the enthusiasm and support for a growth mindset in the classroom are producing a driving need for more. This need is pushing for the development of more opportunities for training. The Culturally Inclusive Growth Mindset Program and the Center for Transformative Teaching and Learning are currently in place to train teachers on utilizing growth mindset instruction in the classroom. The Culturally Inclusive Growth Mindset Program works to shape teacher beliefs and teaches strategies for working with diverse students with an emphasis on engaging them in their learning. In this week-long training, teachers are taught strategies to promote learning and engagement for all learners but especially minority and low-income students. Teachers also receive in-depth instruction on brain development and on how crucial cultural inclusion is for student success (Wacker & Olson, 2019).

Educators are excited about growth mindset and the way it can affect educational outcomes. They want to utilize it in their classrooms but lack the training. This deficit in training concerns researchers because they believe it will cause false mindsets and dilute the power of the growth mindset. It is their goal to find ways to encourage training, without killing the enthusiasm of teachers. It is imperative that this occurs, so a growth mindset does not become another buzzword in school communities. There are a small number of training opportunities now, and they are on the rise. This increase of learning opportunities is due to the concerns, researchers have that the lack of understanding by teachers will water down the effectiveness of the growth mindset. In addition to this, teacher voices are being heard concerning their desire for training.

### ***Teacher's Possession of a Growth Mindset in the Classroom***

Teachers possessing a growth mindset are more likely to create classrooms focused on learning and mastery goal structures (Smith et al., 2018). Mastery goals emphasize the process of

learning, understanding, and problem-solving over performance (Skaalvik & Skaalvik, 2013). Growth mindset educators can help close the achievement gap, not hide it (Dweck, 2006). When teachers believe in their students' abilities to grow and couple it with robust pedagogy and curriculum, it can aid in closing the gap.

Modeling a growth mindset to students may help them learn a way of thinking that inspires them to see their potential for success (Brock & Hundley, 2016). A teacher's mindset crafts their expectations for their students. It also helps develop awareness and understanding of their students' thought processes, and that helps to instill a love of learning (Herbert-Smith, 2018).

A study by De Kraker-Pauw et al. (2017) focused on teacher mindsets and their belief in the malleability of intelligence. It considered how teachers with growth and fixed mindsets provide feedback after appraisals. The research showed in one study that teachers with a growth mindset appreciated increased scores more so than those with a fixed mindset. In a second study centered on feedback, the research showed that teachers with a growth mindset provided less critiques than fixed mindset educators. They concluded that teachers might need to be made explicitly aware of their mindsets, commentary styles, and student mindsets. Teachers aware of their mindsets about the malleability of the brain and how training on how to provide growth-oriented feedback could have a tremendous impact on student learning (De Kraker-Pauw et al., 2017).

Evidence was lacking regarding the espoused mindset a teacher possesses and the impact it has on students. Matthes and Stoeger's (2018) research showed if the adults in students' lives maintain an incremental theory or growth mindset, they will encourage persistence, effort, and strategic learning. The children in their lives would then also hold this same mindset regarding

their academic abilities. Unfortunately, students could not tell the type of mindset the adults in their lives possessed. Instead, their mindsets were influenced by how the adults surrounding them viewed failure. Kids surrounded by adults that viewed failure as an opportunity to learn often developed a growth mindset (British Psychology Society, 2016).

Haimovitz and Dweck (2017) noted that motivational theories and other behaviors might play a more significant role in shaping student mindsets. Nevertheless, Haimovitz and Dweck (2016) also warned people to be aware of a "false mindset." This mindset is one that claims to believe in the malleability of abilities but does not truly possess it. It can also be a false mindset when someone does not truly understand the meaning of a growth mindset and a fixed mindset.

Most educators possessed a growth mindset. Teachers wanted to display a growth mindset for their students, but sometimes struggled as they were torn between growth and fixed for various reasons. Everyone possesses both mindsets. It just depends on how an individual actualizes it. In certain situations, teachers displayed a growth mindset. They did this because it was an area where they felt competent, or it was their comfort zone (Dweck, 2016a). However, in other situations, they may have shown a fixed mindset. This thought process could be due to their lack of confidence or desire to tackle the task (Clark & Sousa, 2018).

Something extremely challenging can trigger a fixed mindset. Since we know everyone is a mixture of both mindsets, it is essential to know what triggers make the fixed mindset take over (Dweck, 2016a). For someone to fully embrace a growth mindset, Brock and Hundley (2016) emphasized they must intentionally work to employ it in every situation they face.

When encouraged to implement a growth mindset, teachers said they supported the efforts but made little strides in changing or reforming their practices (Patrick & Joshi, 2019). It is easy for researchers to teach a growth mindset. However, just as students get stuck in the

learning process, so do teachers regarding possessing and demonstrating a growth mindset and embracing challenges and adapting their practices to improve instruction (Boyd, 2014). Land et al. (2005) noted the idea that the mind can grow is a threshold concept that is transformative and provides a different view of learning. Educators know this to be accurate but become too busy instructing; they neglected to pursue a growth mindset on their own (Boyd, 2014).

Teachers may also possess a growth mindset but did not actualize or show it at different levels in the classroom (Rissanen et al., 2019). Small changes made a difference, but it was only for a short time. Campuses that wanted to create a growth mindset culture had to ensure that all professionals take ownership of it (Hildrew, 2018). Dweck (2010) recommended embedding growth mindset instruction into the culture of a school.

According to Harvard Business Review, companies sticking closely to the idea of a growth mindset wove it into every experience from acquiring talent, planning, leadership, and career development (Brown, 2018). Fraser (2018) discussed that this type of change required a cultural shift, which is difficult and must be done deliberately with much thought. He also emphasized convincing educators to take part in the initiative for effective implementation. If teachers and campuses are to bring about a cultural shift in their classrooms and schools, the change must occur in every facet of the organization for effective long-term results.

Most teachers wanted to maintain a growth mindset. Everyone battles between the two mindsets and must learn what triggers a fixed mindset and how to overcome it. Educators must be committed to pursuing continual growth and development of their mindset. Substantially, the research lacked information on the impact of a teacher's mindset on their instruction and classroom. To create a growth mindset culture, everyone in the organization must commit to it and weave it into every learning community's facet.



## Summary

Implicit theories indicate that beliefs play a part in the nondevelopment, development, failure, or success of individuals (Thoman et al., 2019). A growth mindset (incremental theory) believes in the ability to develop (Dweck, 2016a). Self-determination theory centers on motivation and how intrinsic beliefs push a person toward action and achievement (Turner, 2019; Ryan & Deci, 2017). If a growth mindset is a thought that someone can develop through hard work and effort, then it is their self-determination that activates the motivation towards goal attainment (Brock & Hundley, 2016).

There are clear benefits to maintaining a growth mindset. Those who have a growth mindset love learning and seek to take risks to grow and improve (Brock & Hundley, 2016). Individuals with a growth mindset did not back down when things get hard. Instead, they were fueled to move forward, knowing the challenge creates growth. Mindset manipulation was also proven effective in building individual's mindsets (Mrazek et al., 2018). If noncognitive skills make up 75% of an individual's success, then the mindset a person holds is essential for life. The belief that one has about themselves can set them up for success or failure (Smith et al., 2018).

Growth mindset research shows the power of its influence on accomplishments. However, what kind of an impact can that have on the achievement gap? The divide between the have and have nots has remained the same since the Coleman Report (1966). The U.S. has spent billions of dollars to close the gap. Many efforts have been made through ESEA (1965), NCLB (2002), and ESSA (2015). ESSA offers the most hope by providing more local control, emphasizing the whole child, and the impact of each adult in their lives. Policymakers can make an impact on ESSA if they look at integrating learning with development and reframe the expectations of schools. In addition to this, their collaboration with other policymakers,

educators, parents, and researchers could make a big difference. However, at this time, despite all these efforts, no change has occurred. Therefore, the Aspen Institute National Commission on Social Emotional and Academic Development (2019) made the recommendations for policymakers to consider.

The economic disparity that exists in the U.S. is apparent and continues to rise. It is clear students' family background impacts their achievement and starts early in their educational career (García & Weiss, 2017b; Hanushek et al., 2015). Many students in poverty attend schools that have behavior disruptions, lack high academic expectations, and are not engaging learning environments (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019). Leveling the playing field for students from disadvantaged backgrounds is essential to closing the gap. Growth minded teachers understand and embrace the challenge of meeting students where they are to bring about academic gains.

Teachers understood the need to show sensitivity to students from poorer backgrounds (Chao et al., 2017). They also understood how crucial it is to provide emotional support through a positive classroom climate and strong teacher-student relationships (Nurmi & Kiuru, 2015). At-risk students need to feel a sense of belonging (Stroman, 2018). Student-teacher relationships are critical to academic success, especially for at-risk students. When secure connections exist between the pupils and their teacher, the classroom culture is more positive, and student engagement is higher than when the relationship is nonexistent. This security brings about more significant academic gains (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019). Even with this knowledge, educators are left trying to determine interventions to overcome things outside of their control. Growth minded teachers faced the

challenge head-on, maintain high expectations for all students, believed in them, and worked hard to help students attain them.

What teachers can control are their beliefs and the impact they have on instruction. Teachers can make significant gains with low-achieving students when they maintain specific beliefs (Schmid, 2018). Great teachers believe in the ability to grow intellect and talent. These teachers making an impact also display solid social-emotional skills. These competencies help produce a classroom climate that is conducive to learning (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019). Educators of this kind were excited about learning (Dweck, 2008). Research by Canning et al. (2019) revealed that instructors who possess a growth mindset have a more significant impact on the achievement of minority students than their fixed-mindset peers.

Evidence showed that most educators wanted to possess and display a growth mindset (Clark & Sousa, 2018). However, in their efforts to model a growth mindset for their students and believe in their ability to grow and improve, they continuously battled the two mindsets. Each one pulled at them as they faced challenging instructional issues (Brock & Hundley, 2016).

A teacher's belief if intelligence is fixed or malleable impacted student learning (Wacker & Olson, 2019). Students recognized their teacher's perception of failure and could determine if they saw it as defeating or an opportunity for growth (Haimovitz & Dweck, 2017). This knowledge shaped the students' thoughts and impacted their achievement. It also influenced the thoughts students might have on their future success (Heyder et al., 2020)

A growth-minded teacher can make strides toward minimizing the achievement gap, not hiding it, and acting like it does not exist (Dweck, 2006). Matthes and Stoeger (2018) emphasized growth-minded adults will encourage persistence, effort, and strategic learning.

When students experienced this type of adult behavior, it helped shape their thoughts toward academics and challenges. Teachers wanted to display a growth mindset and utilize it in their classroom but did not make strides in changing their practices (Patrick & Joshi, 2019). Teachers get stuck in the learning, and growing process just like students do. It may be that teachers were too hung up in all their responsibilities that they were not persistent in pursuing their personal growth (Boyd, 2014).

There are excessive amounts of information surrounding implicit theories, particularly the growth mindset. Teachers were enthusiastic about the power of this information but lacked a real understanding (Blad, 2015). This misinterpretation of the information often led to a false mindset (Dweck, 2008). Educators believe the growth mindset can change the course of learning for students, but they lacked the training to move forward with implementation in their classrooms (Blad, 2015). Teachers need to have a clear understanding of implicit theories to ensure their mindset are in line with their beliefs (Jonsson et al., 2012). Training opportunities are lacking, but the literature did reveal one training opportunity that has been impactful with teacher development. The literature also indicated that more professional development options were arising due to the concerns voiced by researchers and the learning desire professed by teachers (Wacker & Olson, 2019).

Studies have shown that teacher beliefs and practices are not always consistent (Cross, 2009; Sun, 2019). Leatham (2006) thought this could be because teachers worked to maintain their beliefs with the other demands at hand. The school systems that teachers worked in helped shape their beliefs because of the social norms and policies in place (Wacker & Olson, 2019). As research occurs on teacher beliefs and their impact on classroom instruction, it is essential to

keep in mind contextual factors affecting instruction such as curriculum, policies, mandated assessments, and other factors (Cross, 2015).

Further research was needed on teacher beliefs. There is not a clear understanding that teachers are aware of their mindsets and the impact it has on their instruction. Things to consider were a teacher's understanding of implicit theories. Coupled with implicit theory information, how does a teacher blend that knowledge with the awareness of their own beliefs and mindsets? Another thing to consider was if there is a correlation between a teacher's years of experience and their mindset. In addition to that, more in-depth knowledge needed to be gained around the struggle for consistency of mindsets in connection with instructional practices.

Although there is a plethora of research surrounding the growth mindset, the achievement gap, efforts taken to close the gap, economic disparity, at-risk students, and teacher beliefs, there was a gap in the literature on how a teacher's mindset impacts classroom instruction. Understanding what makes the difference in instructional practices in an at-risk classroom in correlation to the type of mindset a teacher holds is the essence of this research and will be beneficial for educators working to minimize the achievement gap. With a strong foundation on understanding growth mindset, self-determination theory, the achievement gap, efforts to close the gap, economic disparity, at-risk students and teacher belief, training, and understanding of implicit theories along with various data sources provided through this study information gained has the potential to inform and bring knowledge to educators. It is the hope that this information will bring about changes in their professional growth and the achievement of the students in their classroom.

### **Chapter 3: Research Method**

#### **Study Purpose and Goal**

Mindsets influence a person's choices, behaviors, interactions, and motivations. A teachers' mindsets impact student-teacher relationships, classroom culture, instructional decisions, and how they provide feedback (Jager & Denessen 2015). All of these components are critical in the classroom to positively affect student outcomes and achievement (Hur et al., 2015; Ng, 2018). Despite the importance of teacher mindsets and the need for instructors to be aware of which one they hold, there was little research on the topic (Jonsson et al., 2012). This study examined the teacher mindset and the impact it had on classroom instruction in large, suburban, at-risk campuses.

#### **Research Method and Design**

Educational research inquires to shed light on things happening. A thorough investigation of teacher mindset quizzes and their correlation to the teacher's years of experience produced information showing if experience and mindset parallel. One-on-one Zoom interviews centered on the teacher's mindset provided information on perceptions of their mindset's impact on their teaching. These interviews rendered insight into individual teacher practices and beliefs. Zoom focus groups concentrated on discovering the teacher's understanding and training on a growth mindset and the impact of mindset within the classroom. It sought to understand educational phenomena to impact decision making (Lucisano & Salerni, 2002; Piccoli, 2019; Trinchero, 2002). In conjunction with decision making, one central focus of this type of research was on school improvement and nurturing growth in classroom instructional practices (Ismail et al., 2019).

A mixed-method approach to educational research considers the integration of quantitative and qualitative and legitimizes the diverse evaluations (Piccoli, 2019). A mixed-method employs more than one way to understand data, which unfolds more than one worldview (Venkatesh et al., 2013). The quantitative method grounds its data around a single belief applying statistical data. The qualitative method observes people's actions and experiences narratively (Bergman, 2008). Creswell and Plano Clark (2007) highlighted that combining the two methods provides a deeper understanding of the problem than if you were to look at one approach alone.

The quantitative data involved the correlation of a teacher's mindset score compared to the years of each educator's experience. The qualitative approach included interviews and two focus group discussions. The goal of the research was to understand the teacher mindset and the impact it had on classroom instruction. The literature supported a mixed-methods study.

Aailtio and Heilmann (2012) presented that the case study approach can use both quantitative and qualitative data to emphasize that participants take part in the study in their environment. Woodson (2017) described a case study as focused on description, prediction, and controlling the process or individual. Yin (2012) referenced that an essential component of a case study is that participants' observation occurs in their environment.

The problem of practice focused on teacher mindsets and their impact on instruction in an at-risk classroom. A case study was the best model because of the mixed methodology of research. It also allowed specific examples from the teacher's environment as they participated in the study.

Action research is collaborative. It is a disciplined inquiry and has a positive effect because it is relevant to those taking part in the study (Sagor, 2000). Herr and Anderson (2015)

suggested in an action research study, change occurs either in the setting or to the participants. Ferrance (2000) identified this type of research as “a process in which participants examine their educational practice systematically and carefully, using the techniques of research” (p. 1). The literature corroborated that an action research study is fitting because the participating teachers were striving to improve their skills (Ferrance, 2000).

### **Population, Setting, and Sample**

The population for this study was three at-risk elementary campuses. The campuses are in a suburban area and are considered large, at-risk campuses. The schools are within the CFISD, located northwest of Houston. CFISD is the third-largest school district in the state of Texas (CFISD, 2018). The learning community has 91 campuses (CFISD, 2019). Each of the campuses that participated in the study served over 900 students in grades PK-5 (CFISD, 2020).

All participating campuses receive Title 1 funds due to their high population, 62% or higher of students identified economically disadvantaged, and 40% or higher indicated as second language learners (CFISD, 2020). Each campus’ mission statement within their campus improvement plan and website exhibit their commitment to maximizing every student’s potential through rigorous learning experiences to create 21st-century global learners (CFISD, 2019). Each of the campus’ teachers were all highly qualified (CFISD, 2019).

The sample for this study included nine teachers. The educators were from various levels, specialties, and years of experience. Purposeful sampling was used to select participants to guarantee an assortment of representatives with different years in the vocation. This sampling ensured teachers from varied grade levels and areas of concentration participated in the study. For this to happen, a solicitation of specific teachers took place. The purposeful sampling strategies that were utilized were homogeneity and convenience. The homogeneity strategy



sought to describe a particular subgroup and aided in facilitating group discussions. The convenience strategy offered the opportunity to gain information from participants easily accessible to the researcher (Palinkas et al., 2015).

The mixed levels of experience assisted in seeing the comparison between teacher mindset and experience. One-to-one Zoom interviews of teachers ensured that all viewpoints received equal consideration. Individual interviews occurred via Zoom Pro at a mutually agreed time. Two focus group discussions between participants provided the opportunity to observe broader perspectives for comparison. The focus groups took place in two Zoom Pro meetings at designated times that worked for the participants. Holding two focus group discussions offered the opportunity to divide the eight to 12 teachers in half to be able to hear from all participants. The focus group discussions centered on participants' understanding and training of mindsets and the type they implement during various situations and activities. The small sample size proffered the possibility for a more in-depth analysis of the qualitative data from the interviews and focus group, in which a formidable sampling does not present (Kindsiko & Poltimae, 2019).

## **Materials/Instruments**

### ***Mindset Assessment***

To identify teacher mindsets, each participant took an online mindset quiz developed from Dweck's (2016) work on mindsets adapted from Diehl's (2008) mindset quiz (see Appendix B). Prior to the use of the assessment in the study, the instrument was reviewed by a panel of experts to determine its validity. The panel of experts consisted of district school personnel, professors and graduate students. Panel members were from CFISD, ACU, Oklahoma Christian University, and the University of Wyoming. Each of the participants on the panel were familiar with Dweck's work on growth mindset and implicit theory. The expert who works in

CFISD works in the areas of school improvement and transformation. This department focuses on teacher and student growth for academic gains. Many of the panel members were professors of education. In addition to their knowledge on growth mindset and Dweck's work, these experts understood curriculum decisions and the impact teachers make in the classroom.

The online method enabled participants to receive and complete electronically due to restrictions put in place due to COVID-19 (WCG, 2020). The questionnaire asked teachers to reflect on their beliefs by answering specific questions to determine their mindsets. Participants checked a box in one of four ways to identify to which extent they agreed or disagreed with a statement. Teachers chose one of the following responses strongly agree, agree, disagree, or strongly disagree.

### ***Teacher Years of Experience***

Data collection of a teacher's years of experience was included as a question at the start of the mindset quiz. A Google form was utilized for communication consistency. The correspondence asked for specific information regarding each participant's years of service.

### ***Pearson Correlation Coefficient***

The quantitative part of this mixed-method study determined the correlation between the results from the teacher mindset quiz and their years of experience. The Pearson correlation coefficient seeks to draw a line indicating the best fit between two variables (Lund Research, 2018). Pearson's was the best choice for this study because it sought to determine if a relationship existed between a teacher's mindset and their years of experience (Kent State University, 2018).

### ***Interview Guide***

Part of the qualitative portion of this mixed-method study involved interviews with each participant. These conversations occurred through video conferencing to meet Instructional Review Board (IRB) requirements. Teachers taking part answered researcher-developed questions. The research questions were field-tested by other educators within CFISD who were not participating in the study. An outside expert also reviewed the questions to examine for bias. The semistructured interview guide (see Appendix C) was in place to elicit information from each participant regarding their mindset and the impact it played in their classroom instruction.

Saldana and Omasta (2018) said it is essential to listen intently and analyze when interviewing for research purposes. In the interviews, I paid special attention to attitudes, beliefs, and sought to determine if the participant answered honestly. During the interview data collection process, clarifying questions were asked. I refrained from using leading questions. Recording, transcribing the data, and building a rapport with the participants was a priority (Yazan, 2015).

### ***Focus Group Discussion Guide***

Focus groups are participatory and well suited for action research (Nyumba et al., 2018). Two focus groups took place via Zoom Pro video conferencing to meet IRB requirements. The discussion topic was the mindset quiz and the impact mindsets had on participants.

I developed a focus group discussion guide (see Appendix D). The guide included three key components to guide the conversation. The first component was a warm-up time to build rapport with participants. After that, the middle portion of the time posed questions for participants. The questions were written not to lead the teachers' discussion. The closing section

allowed time for clarification and wraps up the conversation (Clark, 2017). The focus groups were 25-45 minutes in length.

Eight of the nine participants took part in the focus group discussions. Due to the large number in the study, two focus group discussions took place to give time for all to answer and take part in the dialogue (Clark, 2017). Questions were minimal to communicate clearly (Saldana & Omasta, 2018).

### ***Zoom Video Conferencing***

Due to COVID-19, the IRB made changes in research to eliminate hazards to participants by employing other methods other than face-to-face research (WCG, 2020). Zoom is a virtual communication tool that utilizes video or audio in the cloud and is an ideal solution to meet the standards of the IRB during this uncertain time of COVID-19 (Lillig, 2020). This video communication tool was the way interviews and the focus group discussions took place. Zoom provided the opportunity for research to continue online and allowed for recording of video and chat discussion (Lillig, 2020). It was a necessary tool for research, while human interaction was limited.

### **Quantitative Data Collection and Analysis Procedures**

Before collecting any data, I obtained permission from CFISD and ACU IRB. After approval was received, the determination process of potential study participants began. Once a decision was made on prospective teachers to participate, I shared the purpose of the study, contact information, potential risks and benefits. When individuals agreed to take part in the research, they were sent a form in Google and signed their consent electronically on the document. Once the participant provided their consent the form redirected them to the online mindset quiz for completion.

I included a question at the beginning of the mindset quiz asking the participants to list their years of experience. In addition to the years of experience, the participants noted their current teaching grade and content. When all mindset quizzes and years of experience were collected, the numerical data were input into the Pearson correlation quotient. I analyzed the data between teacher mindsets and years of experience to see if there was any association between the two sources of data. Any patterns and themes that emerged were noted.

### **Qualitative Data Collection and Analysis Procedures**

All participants took part in individual scripted interviews via Zoom meetings with me. Times for interviews were agreed on by both parties. Zoom recorded the video. This feature was utilized along with the spoken dialogue for transcription and accuracy purposes. This tool allowed me to remain focused on the conversation. I also took notes using an iPad in a Google document if needed. I had discussions over a purposeful four week period between September and October 2020. Transcription of the interviews occurred within a timely manner of the discourse. As the data transcription occurred, I paid attention to evolving patterns and themes and developed a list of codes.

The two scripted focus group discussions lasted 25-45 minutes a piece in length. Each group used Zoom video conferencing to meet IRB requirements set forth due to COVID-19 (Lillig, 2020). All participants received a calendar invite through email in October 2020. I took advantage of the recording feature for the discussion. These resources aided in transcription and allowed me to focus on the conversation of participants. If notes were needed, and I took these using a Google document on an iPad. Transcription of focus group discussions occurred in a timely manner. Analysis of the data revealed themes and patterns, and a code was developed.

### ***Methods for Establishing Trustworthiness***

A climate of trust was built at the beginning of the interviews. Since I work in the same district as all of the participants, an alliance already existed. Names of the participants were not shared. This knowledge helped the teachers to feel confident in the level of confidentiality. Teachers could request their interview transcript. Before the study's completion, the only thing that was shared was the individual's interview transcript, if requested by the participant. When the investigation is published, I will share information from the study with participants. Pseudonyms protected teacher identities. The only names included in the research were the schools and district. Participants received confidentiality reminders in advance of the study. Before interviews and the focus groups, those that took part were informed again regarding protection of their privacy. Following each interview and the focus groups, each participant was made aware of the nondisclosure of them taking part in the study.

Establishing the validity and reliability of the study was crucial for its success. Integrating the quantitative and qualitative data analysis with triangulation is the heart of mixed methods research (Mertens & Hesse-Biber, 2012). Triangulation methodology helped reduce bias. Measurement bias might have been due to the way the data were collected. Sampling bias occurred due to specific sampling when specific populations could be overlooked. By triangulating the data, through a mixed-methods study, the strengths of both types of methods were utilized to strengthen the study (Kennedy, 2009). Items included in triangulation included the mindset quiz compared to years of service data, one-on-one interviews, and the focus group discussions.

### ***Researcher's Role***

It was my role to assure each participant understood their parts in the study. I also reviewed and analyzed all quizzes, interviews, and focus group transcripts. I abstained from bias. Dictionary.com (2020) defined bias “as any tendency which prevents unprejudiced consideration of a question.” As an employee of the same school district as the participants, it was possible I could show a preference. Specific measures were in place to guarantee a non-biased approach toward the study. I thoughtfully composed interview questions. Those questions were field-tested by other employees, not participating in the study before the interviews begin. During one-on-one interviews, I posed questions that allowed respondents to give honest answers. This approach focused on the human elements to minimize the potential for bias (Sarniak, 2015). In addition to this, I objectively applied information from the interviews directly to the research questions to lessen bias.

### ***Ethical Considerations***

The IRB process and research approval process assured participants of their protection throughout the study. Teachers were made aware they could choose to withdraw from the research at any time. The participants' identification were kept confidential, and only the school and district name were shared.

### ***Protecting Participants From Harm***

The only harmful effect of this study could be the potential lack of confidentiality from other participants in the focus group. There were no physical risks for participation. The benefits of participating in the study was the opportunity for participants to contribute to the impact of mindset to better instruction within CFISD. It potentially helps other educators in the future. It is my hope this study will contribute to the field of education and growth mindset.

**Informed Consent.** I reached out to each potential participant over email with preliminary information about the study. Included in the email was a link to a Google form. The form asked for the participant's consent. If participants provided consent by their electronic signature on the form, the form advanced them to questions regarding their years of service and onto the mindset quiz.

The consent form requested each participant take part in an online mindset quiz, provided a place to document their years of service, and let them know they would participate in one-on-one interviews, and join in on a focus group discussion. There were not any incentives for taking part in the study. The study was voluntary, and there were no consequences if a teacher declined participation. If a teacher initially decided to take part and then changed their mind, they were able to choose to withdraw from the research at any time.

**Right to Privacy.** There were not any known risks to participants during this study. If a participant chose to do so, they were able to review the interview records before publication. Interviews and the focus group discussion took place utilizing Zoom video conferencing. This tool allowed participants to remain safe and comfortable in their location during the effects of COVID-19. The names and factors that identified participants were not included in the dissertation. Only school personnel involved in the study and I saw any of the documents. The results of this study could be published or presented to people. In the event this occurs, the names of the participants will remain anonymous using pseudonyms. All information for the study remained secure in a locked cabinet. All computer documents were password protected and known by me only.



**Assumptions**

One assumption was that the study would be successful because the participants answered honestly to the mindset quiz, interviews, and focus group discussions. I continually assured participants of the safeguards in place to maintain confidentiality and kept documents secure. It was assumed that participants did not have any ulterior motives for taking part in the study and sharing their mindset and perspectives.

Another assumption was that it would not be challenging to get participants for the study since I work in the district. It was also assumed that CFISD would allow this research to occur since I am a district leader. Additionally, this topic would be of interest to the field of education and the work done with students.

**Limitations**

One limitation was the small sample size. Small sample sizes may lead to bias, such as nonresponse or someone who decides to opt-out of the study (Simmons, 2018). However, Creswell and Plano Clark (2011) highlighted that large sample sizes may sacrifice some of the richness of qualitative research.

The sample size also included only female teachers. This is another limitation to the study. In the 1980s more males sought classroom positions. In spite of this increase, the gender distribution in education continues to grow more imbalanced (Wong, 2019). This disparity created a limitation to the study because only female teachers were chosen and decided to participate.

Another limitation could have been possible bias in recruitment for the study. Part of the district requirements was presenting the details of the study to the campus principals involved in the research. The principal then determined who would serve as the campus site supervisor.

Since the guidelines required information on the study this may have swayed the mindset of the supervisor in how they chose who to invite to participate.

### **Delimitations**

Research questions setting specific boundaries were put in place to maintain the focus of the study. The research revolved around the teacher mindset and its impact on instruction in an at-risk classroom. The topic of growth mindset, instructional practices, and the achievement gap are vast and thought-provoking. However, the study adhered to looking at a teacher's mindset and how it affected the instruction of at-risk students.

One related suggestion was to compare the mindset quiz data to teacher evaluation. COVID-19 canceled all school in-person interaction. This cancellation of face-to-face instruction caused teacher evaluations to look different than usual. The lack of face-to-face interactions meant observations and walk-throughs were not able to be completed. A waiver from the state gave provisions of teacher evaluations. However, in light of this study, it was an incomplete source of data. The study focused on the mindsets of eight to 12 teachers from varying levels, specialties, and years of service in a suburban, large at-risk campus.

### **Summary**

The goal of this study was concentrated on the teacher mindset and its impact on instruction in an at-risk classroom. To accomplish this goal, a mixed-methods, case study, action research approach was used. The sample study included nine teachers and provided the opportunity for the diversity of mindsets and perspectives. The data were provided from online mindset quizzes, years of service, interviews, and focus group discussions and presented varied data to analyze deeply. Using Pearson's correlation coefficient to analyze numerical data, showed if the teacher's mindset correlated with years of experience. Semistructured interviews

guided through a carefully-crafted interview guide provided insight to teacher's thoughts on mindset and instruction. Questions in the guide were field-tested for quality. The focus group discussion was a set plan to lead the conversation. Appropriate permissions from the district and IRB were collected before the start of the study. The data analysis goal was to bring about a deeper understanding of mindsets and their impact on teacher's instruction. Triangulation ensured the research was valid and reliable. I sought for safeguards to eliminate bias and checked all sources for accuracy. Participants received information regarding confidentiality and had multiple opportunities to consent to participate or withdraw from the study. Knowing this information aided in building trust between participants and me and allowed for honest and productive dialogue to bring about solid research.

The study included nine teachers but could potentially affect other educator's mindsets to impact instruction and help minimize the achievement gap. The study maintained focus on the research questions. With an organized plan for data collection, including online quizzes, years of service information, semistructured interviews, and a focus group discussion, the study began.

## **Chapter 4: Results**

### **Purpose**

The purpose of this mixed-methods case study was to acquire an understanding of teacher mindsets and the impact they have on instruction in an at-risk classroom. A mixed-method case study was utilized to collect and analyze data from nine teachers with varying years of experience and content specialties. Each of these teachers works on campuses identified as at-risk within a large suburban school district. Data collected sought to answer the research questions that guided the study.

This chapter aims to report the analysis of the data collected from mindset quizzes, nine semistructured interviews, and two focus group discussions. The analysis of data in this chapter addresses the research questions. Triangulation was used to increase the credibility of the data (Salkind, 2010). The triangulation aligned the multiple perspectives presented in each interview and the two focus group discussions. These interactions provided a more comprehensive understanding of themes that emerged from participant's interpretations. Chapter 4 is organized in the following way: summary of research focus and processes, an overview of the findings, and a summary of the chapter.

### **Summary of Research Focus and Processes**

This mixed-methods case study used mindset quiz scores and their correlation to teachers' years of service, semistructured interviews, and two focus group discussions to answer the research questions:

**Q1.** What mindsets do teachers from large, suburban, at-risk elementary campuses possess, as indicated in a mindset quiz, and how do these scores correlate with years of experience?

**Q2.** How do teachers from large, suburban, at-risk elementary campuses perceive their mindsets affecting instruction?

**Q3.** In what ways did the mindset quiz positively or negatively impact teachers from large, suburban, at-risk elementary campuses personal perceptions?

### ***Description of the Sample***

Data collection came from nine elementary teachers working in at-risk campuses who volunteered to participate in the study. All the data collected were analyzed. Participants in the study were assigned a number to protect their identity.

I obtained the contact information of 10 potential participants from the three designated campus research sponsors. After receiving the details, a Google form was sent out informing potential participants of the study's specifics. This document included the opportunity for participants to consent or decline to take part (Appendix A). One teacher denied participation and was exited out of the study when the non-consent response was received. Nine out of 10 potential participants consented to contribute to the study. Following their electronic consent, the form proceeded to the mindset quiz (Appendix B) for participants to begin taking part in the research. After collecting mindset quiz data, communication was started to schedule interviews. Various email communication occurred to coordinate schedules. All interviews were set to occur via Zoom within two weeks.

All participants' gender, race, teaching content and grade and years of service was captured and catalogued (see Table 1). The age, race, teaching content, and years of experience varied for each participant. Four of the nine participants had 15 or more years of experience. Each individual taking part in the study was certified by the state of Texas to teach.

**Table 1***Participant Profiles*

Participants	Gender	Race	Teaching Grade/Content	Years of Experience
Participant 1	F	White	Kindergarten Self-Contained	1
Participant 2	F	Black	5th grade Math	8
Participant 3	F	Indian	2nd grade Math-Science	17
Participant 4	F	White	Primary Interventionist	19
Participant 5	F	Black	Kindergarten Self-Contained	7
Participant 6	F	White	5th grade Science	23
Participant 7	F	White	1st grade Self-Contained	6
Participant 8	F	Black	3rd grade Math-Science	26
Participant 9	F	White	4th grade Science	12

*Research Processes*

A mixed methods research methodology was used for this study. Piccioli (2019) referred to this type of research as an integrated approach with an assortment of analytical methods to the topic being studied. Examining teacher mindsets was done through a mindset quiz developed from Dweck's (2016) work on mindsets adapted from Diehl's (2008) mindset quiz. The quantitative research in this study looked to see if a correlation existed between teacher mindsets and years of experience. The qualitative research consisted of individual semistructured interviews and two focus group discussions, which examined teachers' understanding and impact of growth mindset on their instructional decisions and interactions.

**Data Gathering Process.** Before taking the mindset quiz, participants were presented with an informative consent document (Appendix A). This document made potential participants aware of the study's details and how their involvement, identities, and responses would remain

anonymous and confidential should they choose to participate in the study. Participants were also made aware they had the opportunity to withdraw from the study at any time. After consent was received, the informed consent document directed them to list their years of service, content, and grade-level experience and embark on the mindset quiz (Appendix B). After participant's completed the mindset quiz, I scored and assigned a number to each participant to maintain participant anonymity. To score the mindset quizzes, I used the mindset quiz key (Appendix B). Participant's received a determined amount of points for each of their answers to the statements. Once points for each statement were determined, I added the points to determine mindset scores. When the mindset scores and years of experience were gathered, a correlation coefficient was performed to determine if there was an association between a teacher's mindset and the years they worked in education.

Following the mindset quiz and years of service data collection, interviews were set up with each participant at a mutually agreed time. To meet the requirements of the IRB during COVID-19, all interviews took place via Zoom Pro. The semistructured interviews were recorded with video, but the participant's video was not seen because the computer screen was shared. The video being kept confidential was a requirement of the district where all the participants were employed. The shared screen displayed each participant's mindset score. Sharing the screen blocked the video of participants but captured the audio recording of each interview. The audio recording made the transcription of the interviews possible to ensure the accuracy of each participant's responses. Prior to asking questions, participants were encouraged to take their time and share their honest thoughts and understanding of growth mindset as well as the impact it has on their instructional practices.

Participants were asked eight interview questions. Each question was designed to help at-risk educators deeply reflect on mindset and if and how it impacts their curriculum decisions and interactions. The interviews also sought to discover what type of training each participant has had on mindsets if any. Before each interview ended, I asked if they had any other information they wanted to share. The average length of each interview was between 20 and 25 minutes.

Following the data collection from the interviews, two focus group discussions were set up. The first focus group discussion included participants 3, 6, 7, and 9. Participants 1, 2, 5, and 8 made up the discussion for focus group two. Each focus group met one time. The discussions were set up over two days to make the groups smaller for more in-depth discussion. Participants were given the dates and had the opportunity to sign up for the evening that worked best for their schedule. One group was set to have five participants, and the other four. When the focus groups met, each only had four participants as one educator in focus group two was unable to take part due to a family emergency. The focus groups were recorded with video, but participants' identities remained confidential through the use of sharing the screen. The shared screen displayed a simple growth mindset image. Sharing the screen blocked the video of participants but captured the audio recording of each focus group. The audio recording made the transcription of the focus group discussion possible to ensure the accuracy of each participants' responses and interactions. Prior to leading the discussion, each participant was thanked for their time and encouraged to interact and provide their thoughts, frustrations, and understanding of mindsets and how it impacts their professional career, their classroom, and interactions.

I led the discussions utilizing a focus group guide (Appendix D). The guide included a welcome and introduction to the discussion. Following that information, the guide focused on eight questions to prompt conversation and interactions between the participants. The questions



focused on how participants defined a teacher with a growth or a fixed mindset. It also explored if participants battle the two mindsets. The guide probed into the mindset they possess when dealing with complicated interactions, instructional planning, and when a student does not understand what they are teaching. Before the end of each focus group, I asked if participants had additional information they wanted to share to be considered as part of the study. The length of the first focus group discussion was 27 minutes and the second discussion was 42 minutes.

**Data Analysis Process.** Following the collection of data from the interviews and the focus group discussions, the analysis began. The transcription of data did not occur until all interviews and focus group discussions had been conducted. Trint, an audio transcription software, was utilized to transcribe each interview and focus group discussion. Each interview was assigned the participant's number to maintain confidentiality. The transcription software was password-protected, and the password was known only to me. A discourse analysis was employed to examine the interactions of the respondents. It also considered the day-to-day environments of the participants (Bhatia, 2018). Through the process of open coding, themes began were identified. Steps taken following the interviews and focus groups for transcription and analysis included:

- **Step 1: Transcription.** The audio portion of each interview and focus group was recorded via Zoom and downloaded onto a password-protected laptop. Each interview and focus group session were uploaded to Trint. To ensure accuracy, I listened to each interview and focus group discussion while following along with the transcription. After each interview and focus group session a review occurred to confirm the correctness and each interview dialogue was transferred into a word document. This process revealed the first signs of emerging themes.

- Step 2: Familiarization of the data. I listened and read through each interview and focus group discussion multiple times to become familiar with the data.
- Step 3: Data coding. After the familiarization of data, I went through each interview and focus group discussion line by line, every sentence, word for word. During this step, a code was developed. An open coding process was adopted. Through the process of open coding, the data were analyzed in every possible way. Glaser (2016) indicates this can provide many descriptions of probable concepts which evolve that might not fit into the developing ideas. He emphasized the importance that open coding must always keep in mind the central focus of the study. Open coding is the first stage of coding and identifies prominent themes and ideas that can be categorized (Williams & Moser, 2019). This step looked at the raw data and tried to make sense of it. During the coding process, I utilized various colors of pens to distinguish varying themes. The different colors provided the opportunity to distinguish between primary and secondary ideas. Specific codes were assigned. The codes identified values, beliefs, and phrases. This process was repeated to create sets of data.
- Step 4: The working analytical framework. An analytical framework was developed after a few of the interviews were coded. After putting the codes into categories, the framework was created. A portion of the process of creating the analytical framework involved manipulating and examining each participant. I sought to determine common themes and trains of thought in the participating educators. The framework was not complete until all interviews and focus groups were coded.

- Step 5: Analytical framework applied to the data. The framework was utilized on the remaining interviews and the focus group discussions. Categories and subcategories on the framework were used to differentiate the codes that were set in place.
- Step 6: Charting the data in the framework matrix. Part of the coding process was summarizing and charting the data into the matrix. Columns in the matrix included categories, subcategories also called descriptors and revealed themes. Themes included direct quotes from participants.
- Step 7: Data interpreted. After the coding matrix was created, I reviewed the data categories. Themes emerged from the data. Word and phrases were used and I looked for congruities. The coding matrix focused on the research questions:

**Q1.** What mindsets do teachers from large, suburban, at-risk elementary campuses possess, as indicated in a mindset quiz, and how do these scores correlate with years of experience?

**Q2.** How do teachers from large, suburban, at-risk elementary campuses perceive their mindsets affecting instruction?

**Q3.** In what ways did the mindset quiz positively or negatively impact teachers from large, suburban, at-risk elementary campuses personal perceptions?

A coding matrix summarized the responses of each participant and their thoughts on mindset. It also focused on if and how their mindset impacted instruction and curriculum decisions. The first column of the matrix exhibited six categories that emerged from the data. The second column featured 16 subcategories or descriptors distributed throughout the six categories. Descriptors summarized the category into a word or short phrase, which provided a primary topic for passages within the qualitative data. The descriptors narrowed the data into

related themes, which filled the remaining columns of the matrix. Themes are reoccurring ideas that flow throughout the research. Saldana and Omasta (2018) specified that themes are extended phrases or sentences that help categorize the data from topics and patterns that emerge. The theme columns included some direct quotes from interviews and focus group discussions. These quotes appeared through in vivo coding and utilized the participants' words verbatim from the transcript data.

### **Summary of the Findings**

The purpose of this mixed-methods case study was to acquire an understanding of teacher mindsets and the impact they have on instruction in an at-risk classroom. Data and themes emerged through the analysis process. The emerging data and evolving themes from the quantitative and qualitative research assisted in answering the research questions. The data and themes revealed insight into the mindsets and thought processes of at-risk educators as they plan, instruct, and interact in their professional environment. Table 2 illustrates the research questions and the emerging data and themes.

**Table 2***Emerging Themes*

Research Questions	Emerging Data/Themes
<b>Q1.</b> What mindsets do teachers from large, suburban, at-risk elementary campuses possess as indicated in a mindset quiz, and how do these scores correlate with years of experience?	<ul style="list-style-type: none"> <li>• Five teachers possessed a strong growth mindset</li> <li>• Four teachers possessed a growth mindset with some fixed ideas</li> <li>• There was not a correlation between mindset score and experience</li> </ul>
<b>Q2.</b> How do teachers from large, suburban, at-risk elementary campuses perceive their mindsets affecting instruction?	<ul style="list-style-type: none"> <li>• Aids in differentiation to meet students at their levels</li> <li>• Flexibility in thinking, openness to learning and making changes</li> <li>• Reflection is a regular part of teaching practice</li> </ul>
<b>Q3.</b> In what ways did the mindset quiz positively or negatively impact teachers from large, suburban, at-risk elementary campuses personal perceptions?	<ul style="list-style-type: none"> <li>• Desire for having a growth mindset</li> <li>• Teachers battle both mindsets</li> </ul>

The summary of findings is organized by research questions. Under each research question are emerging data and themes that were discovered. The data and themes are coupled with thick descriptions that involve great detail and speak to the context, meaning, and interpretations of participants' scores, behaviors, and actions (Ponterotto, 2006).

***Research Question 1***

The objective of research question one was to identify participants' mindsets and determine if there was a correlation between their mindsets and years of service (see Tables 3 and 4). The mindset scores revealed that five participants possessed a strong growth mindset, and four participants held a growth mindset with some fixed ideas. The correlation coefficient of 0.1400408804 showed there was no correlation between teacher mindsets and years of service.

**Table 3***Mindset Scores*

Participants	Mindset score	Years of service
Participant 1	45	1
Participant 2	45	8
Participant 3	42	17
Participant 4	51	19
Participant 5	41	7
Participant 6	36	23
Participant 7	38	6
Participant 8	49	26
Participant 9	52	12

**Table 4***Mindset Scale*

Mindset	Scale
Strong Growth Mindset	45-60 points
Growth Mindset with some Fixed Ideas	34-44 points
Fixed Mindst with some Growth Ideas	21-33 points
Strong Fixed Mindset	0-20 points

**Data 1: Participants Possessing a Strong Growth Mindset.** After scoring the mindset quizzes, the results presented five participants possessed a strong growth mindset. According to the growth mindset scale, a score between 45 and 60 indicated a strong growth mindset. Participants 1, 2, 4, 8, and 9 scores ranged between 45-52 points, indicating their strong growth mindset.

Participants 1, 2, and 4 agreed or strongly agreed to all of the quiz's growth mindset statements. Although participants 8 and 9 displayed the most substantial growth mindset scores, the data analysis revealed one growth mindset statement both participants disagreed with on the quiz. Both indicated their disagreement with statement 15, which posed the idea "all human beings without a brain injury or congenital disability are capable of the same amount of learning" (Appendix B).

Although the data indicated strong growth mindsets for the five participants, the data displayed participants 1, 2, and 4 agreed, not strongly agreed with most of the growth mindset statements. These participants also marked disagree, not strongly disagreed with many of the fixed mindset statements. This information points toward the deduction that this is the reason their mindset scores are on the lower end of the strong growth mindset scale. Participants 8 and 9 strongly agreed with the bulk of the growth mindset statements and strongly disagreed with a larger portion of the fixed mindset statements. This data conveys the basis for their higher growth mindset scores.

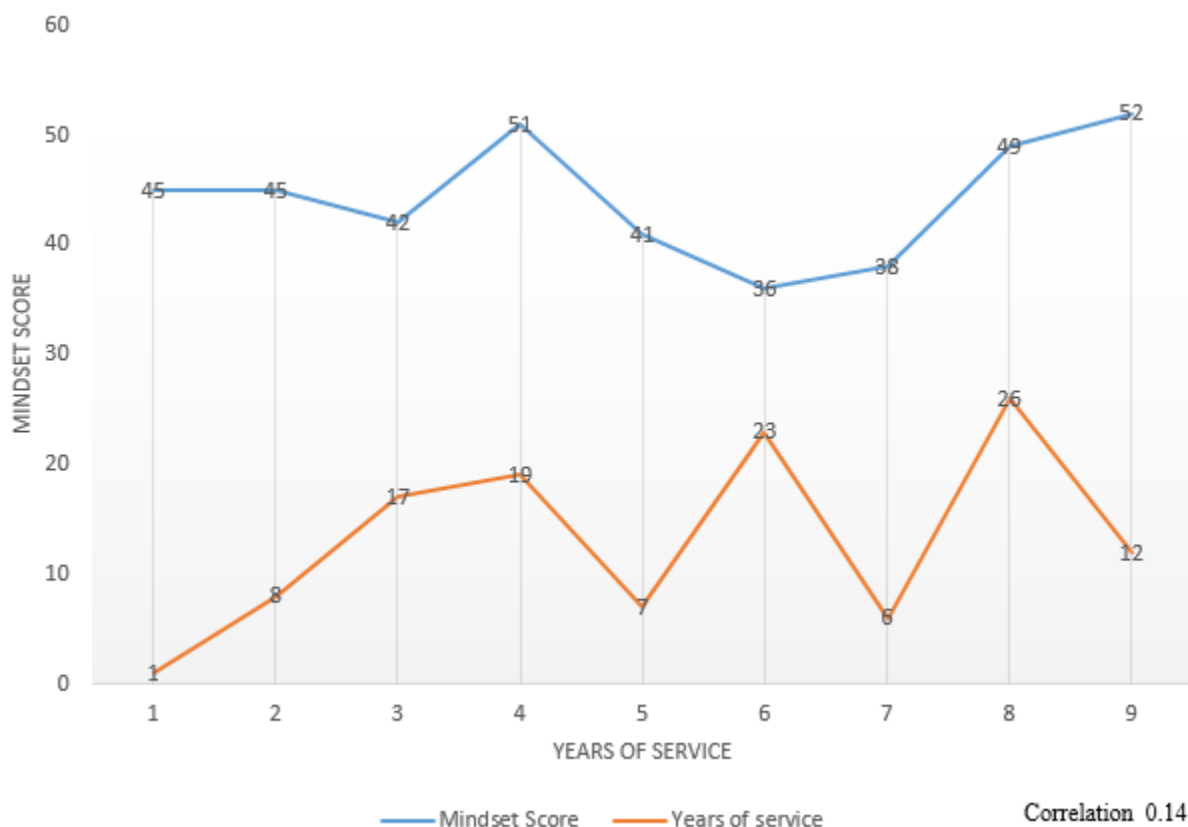
**Data 2: Participants Holding a Growth Mindset With Some Fixed Ideas.** Participants 3, 5, 6, and 7's mindset scores indicated they held a growth mindset with some fixed ideas. The scale exhibits that a score of 34–44 suggests this type of mindset. The participants falling into that range had scores spanning between 36–42 points. The data analysis exposed that the four participants held varying amounts of fixed ideas. There was also diversity in the fixed ideas the participants believed.

Participant 3 had two fixed ideas as indicated from the data. The two fixed idea statements were items 13 and 17 on the mindset quiz. The fixed statements the participants disagreed with were focused on receiving feedback and the belief that people cannot change the

essential portions of their personalities. Participant 5's quiz showed one fixed idea, item 19, on the mindset quiz. The participant disagreed with the notion that teachers and students complete their work because they like to learn. Participant 6 held onto five fixed ideas. These ideas were items 1, 2, 3, 16, and 17 on the mindset instrument. The first three ideas and idea 16 on the instrument all centered on changing one's intelligence. Item 17 focused on the ability to change the essential parts of oneself. Participant 7's data revealed two fixed ideas. These two ideas came from statements 9 and 11 from the mindset quiz. Item 9 brought about the idea that one can get better the harder they work. Statement 11 sought to determine how participants responded to trying new things (Appendix B).

Participant 3 had the highest score in this subgroup even with holding onto two fixed ideas compared to participant 5, who only maintained one. It is inferred this is because participant 3 scored strongly agree on two of the growth mindset focused statements. Participant 5 did not choose to agree on any statements strongly. Participants 3 and 7 both held to two fixed ideas. However, the participants had varying scores. Participant 3's score was four points higher than participant 7's. This higher score is again indicated in the data that it is due to participant 3 choosing to agree with two growth mindset focused items strongly. Participant 7 did the same as participant 5 and did not choose to agree with any statement strongly. Participant 6 had the lowest score in the group, a score of 36. This score is three points away from a fixed mindset with some growth ideas. The five fixed items the participant held onto attest to the lowness of the score. These data reveal what matters in determining mindset is not solely set on having a growth mindset with every statement but in how strong one leans toward growth statements.



**Figure 1***Correlation Data*

**Data 3: Correlation Data Between Teacher Mindsets and Years of Service.** After analyzing the growth mindset scores, a correlation coefficient was performed to compare the variables of the participants' scores and their years of service. A correlation coefficient seeks to determine the linear strength between two variables. A value of zero indicates no relationship between the two variables being compared (Nickolas, 2021).

If a correlation coefficient has a value of less than +0.8 or greater than -0.8, it is not considered significant (Fernando, 2020). The correlation coefficient value for the mindset scores and years of experience variables was calculated to 0.1400408804. This value indicated there is no significant relationship between the two.

It was hypothesized before the correlation coefficient that teachers with more years of experience would have lower mindset scores. Even though there was no significant linear strength between the two variables, one significant fact arose that substantiated the hypothesis to be false. The two participants with the highest mindset scores had 31 years of collective teaching experience; thus, indicating that teachers with many years of experience in the profession are still committed to growth.

### ***Research Question 2***

Research question number two sought to understand teacher perceptions of their mindsets impact on curriculum and instructional decisions. Three themes became apparent through interviews and focus group discussions. The first theme showed that the participants' mindsets aid them in differentiating to meet their students at varying levels. Flexibility in thinking, an openness to learning, and making changes was the second theme that evolved. The third theme indicated that participants engaged in a reflection process when planning instruction.

**Theme 1: Differentiating Instruction to Meet Students' Varying Levels.** The first theme became visible based on the perspectives of the participants in interviews and focus group discussions. During these interactions, 38 comments concentrated on how the participant's mindset aids them in differentiating instruction to meet their students' varying levels. Participants emphasized the one size meets all approach does not work for students. The importance of changing lessons up and bringing in various materials to engage students in their learning became apparent. Participant 5 expressed it this way.

The kids you teach are all learning at different paces. So, you have to constantly adjust your thinking. You have to constantly adjust their curriculum to fit your group of students or individuals. You are open to trying different ways of teaching or different ways of

learning. And sometimes, some of your best ideas could come from how students are responding.

Additionally, concerning meeting students where they are, the participants focused on reaching every child. For some, this meant working one on one, checking for understanding, or modeling their thinking. Participant 6 even discussed how one year, the students' social-emotional needs took precedence over the curriculum.

I think my mindset helps me decide, what I am going to do for each of my different groups, how I am going to differentiate my instruction, and what I am going to do to best meet the needs of my students. Like for instance, I had a lot of behavior needs that were very, very needy in the sense of I just needed a lot of social-emotional skills. And so last year we spent a lot of time on social-emotional skills. I invited the counselor in to do social-emotional learning in my class. And so that took precedence a lot of time over some of the curriculum.

All participants mentioned the need to meet students where they are not to miss any students. It was evident in their comments that they sought to do whatever it takes, including changing their mindset to ensure no child is left behind. A participant in one of the focus group discussions said it best.

Teachers can get stuck in their mindsets too. It is like they see their tests and see their results, and it is like, oh, it is the same ones, the same ones that are always low. But as a teacher, how am I going to fix that? They have always been low in the year's past, but we need to fix this. How are we going to change that? I cannot justify they are always low, and that is how it is going to be. I have to make sure I change my mindset to not think that way. And then say, how am I going to change it for them? Do I need to reteach? Do I

need to do individual one on one tutoring? How am I going to change this? Because I think a lot of time when I have heard it, even when I have seen it with my kiddos; they are the little ones, they are the stragglers. But what went wrong there? How else do I need to reteach, or are they lacking something even further, some more foundational skills that maybe I missed.

Each participant acknowledged how their mindset aided them in differentiation and meeting students at varying levels. They recognized their need to make changes not only in curriculum decisions but in their thinking. It was evident that each participant grasped and accepted the role of influence they yielded with their students.

### **Theme 2: Flexibility in Thinking, an Openness to Learning and Making Changes.**

The second emerging theme to research question two was how participants' mindsets have flexibility in thinking, an openness to learning, and making needed changes. Six of the nine participants expressed they were open to different ways and did not want to be stuck in just one way of thinking. Participant 2 spoke about how this flexibility in their thinking benefited teachers in their interactions with students, parents, and peers.

Whenever you have such an open mind, you are willing to understand the other side.

Especially when it comes down to parents. Sometimes we have to understand where they are coming from. We are not all coming from the same situation. Some are bad, some are good. We have to take all that into consideration when we are teaching. When we are talking to kids, when we are talking to our colleagues, everybody has something different happening. Everybody has something different to contribute. I have to be open.

Many taking part in the study voiced their resolve to possess a mindset which is open to learn new things and make changes. Some indicated their commitment to this mindset was that

they would not be a very productive teacher if they did not adopt it. One participant in a focus group discussion expanded on the thought by saying:

If your mind is just kind of fixed on where you are, and this is how you are accustomed to doing things, that is going to come with frustration for you and the children. You are not going to be very productive.

Participant 1 discussed the openness of learning and making changes and its impact on one's overall goals.

If you have a growth mindset, you are really open to new thoughts and new ideas and really innovating the way you are viewing things. You know that sometimes change is good, and you are more willing to take the opportunity to make changes and see how they affect your overall goals and how things are turning out. I am really willing to take a bunch of classes and try to learn how to do things different. I take the things I soak in from different classes and apply them to the curriculum.

Four participants explained that this mindset allows an individual to accept and learn from constructive criticism. Participant 6 articulated it this way.

So, a growth mindset is just you are willing to take correction from administrators. Or take ideas, attend training, because there is something you are doing that you are willing to change. So, you are willing to take suggestions on how you can make your craft better.

Participant 6 also referenced reading the book *Mindset: The New Psychology of Success* (Dweck, 2008) as part of campus training. When sharing about the learning, the participant expressed an even deeper desire to nourish a growth mindset. The participant's reasoning for this was:

The book really made me want to be growing. I always want to be growing because I am replaceable, and I truly do just want to be the best teacher I can be. So, in order to be the

best, I have to continue to grow because things are constantly changing. And if I get set in a certain place where I am comfortable, then that is what it is. When you are getting comfortable, you are not really growing and accepting challenges. I think challenges are what help get us through. I always feel like there is something that we have to learn, and those challenges help us learn those things and how to become better.

This mindset focused on flexible thinking, openness to new learning, and making changes propelled participants to accept challenges. In their pursuit to grow and change, they acknowledged their struggle but the ability to change and get better. One teacher even said they viewed challenges and struggles as opportunities.

**Theme 3: Reflection a Regular Part of Teaching Practice.** The final theme evolving for question two was teachers possessing a growth mindset make reflection a regular part of their teaching practice. This deliberate contemplation impacted the decisions these educators made when planning instruction and delivering lessons to their students. When asked in the focus group discussions about which mindset dominates their thoughts when planning instruction, one participant voiced this example.

I might think about what I did for this lesson last year. And then I think about, OK, well, would that work for my group of kids this year? Like last year, I had a really rough group of kids, and certain activities just were not going to work that may have worked in the past. And so, I take those kinds of things into consideration when I am planning for a group like this year. My group of kids is really fun, so the activities I am going to do with them may look different than the activities I would do with a group of kids that there is a lot of behaviors.

When discussing instructional planning, the focus group also acknowledged how changes occur in the curriculum. One participant referenced a recent shift in the science lessons and indicated the struggles in a mindset that came with those modifications.

They changed a lot of the science curriculum; it was a struggle. So, I had to remind myself; there is a reason why they changed this. And because sometimes, it is hard because, as teachers, we know what has worked in the past. And it is sometimes hard to change the way you are doing stuff, but it is for the better for student learning.

Growth-mindset-focused educators reflect on changes and understand there is a reason for each one. These teachers embraced the alterations because they know they are necessary to bring about student success.

Teachers who practice regular reflection as a part of their teaching practice utilize it to adjust their instruction not only during planning times but also when they are in the midst of a lesson. If a teacher observed the class not understanding or they lacked the ability to respond to questions, quick reflection occurred right then. From that reflection, lesson adjustment takes place. One participant shared:

I am asking questions, and they do not quite understand, or they cannot answer my question back to me. I have to change. I need to change how I am teaching then. I cannot stand there and try to think about it for five or 10 minutes because it has to keep rolling. And so, I do not try to teach the same way all the time. It does not work for everybody. It is important to make sure I am providing something for different learning styles and different abilities to try to reach all of those different kids instead of having to do it this way. It is not about how I want to do it. It is about what they need.

Di Pardo Léon-Henri (2021) recognized the benefits of reflective teaching. One advantage is ensuring all students are profiting from the learning. When students are actively engaged in the learning process, more knowledge is being acquired. As the participant referenced before, knowing what students need aided in engagement and understanding. When teachers reflect and learn student preferential learning styles, they are better equipped to meet student needs.

### ***Research Question 3***

The third research question searched to discover the impact of the mindset quiz on participants. This question examined the result the quiz had both positively and negatively on participants. Through the interviews and focus group discussions, three themes developed. These themes included the desire to have a growth mindset, and the indication that teachers battle both mindsets in their professional environments.

**Theme 1: Desire to Have a Growth Mindset.** Every one of the nine participants voiced the desire to be growth minded in their interviews. Some did expressed surprise at finding out they had some fixed ideas on the quiz. Those with some fixed ideas believed themselves to very growth focused. In the interview with participant 2, one of her comments about growth mindset was: “We definitely need it.” Participant 6 said: “Whenever you choose growth for yourself, it more overall benefits the kids.”

In the interviews following the presentation of the mindset quiz data, participants were asked if mindset matters. Each participant responded that mindset is vitally important to a person’s success. Participant 5 declared:

Your mindset matters because it determines how you deal with the situations. If your mindset is fixed and it is stuck on my way or no way, then I think that stunts your growth,



your ability to see someone else's point of view, your ability to learn something different and something new. So, mindset, it absolutely does matter. It matters whether it is fixed or whether it is you have growth in how you determine you are going to handle yourself in different situations.

Participant 8 referenced the desire for a growth mindset to meet the needs of the students.

I go to each one of my lessons with an open mind. My mind has to be open because I know each one of my students is different. They have different learning styles. So, a closed mindset means I am going to go in with a set strategy and set ways and materials. This is what I am going to use, and I am not going to change it. I am just going to go with what I have. But with an open growth mind, I am set on the students. I have to understand whatever their needs are. I have to be flexible. I have to adjust accordingly. I need to adjust to meet their needs.

It is the desire for growth that motivated each participant to pursue learning opportunities. When participants were asked, if they had any training on mindset, only two of the nine had participated in any learning on the topic. Each participant indicated the desire and need for training to equip them for use in the classroom better.

**Theme 2: Battling Both Mindsets.** The mindset quiz revealed each participants' scores. Those who possessed a growth mindset with fixed ideas acknowledged the battle of the two mindsets in their quiz. It became apparent in the focus group discussions that all participants battle the two mindsets in the classroom. When asked to expand on this idea, one participant stated:

Some areas I know I can be stubborn, and I catch myself. I try to make the correction and adjustments on my own. I can be stuck on a certain idea. I have to see another teacher doing it another way and see that it works just as well to buy in.

Another participant shared an incident that had happened the day of the focus group where the mindsets' battle was prevalent.

It is a perfect example from today. I teach science all day, and I have a partner who teaches math all day. We have two partners who teach language arts all day. I have four classes, whereas language arts teachers only have two classes. They are wanting to regroup students to make one virtual class, one face-to-face class. It would make me have two face-to-face classes and two virtual classes. But I am very sad and said no. I am already doing hybrid. I do not want to do that, like learn something else. So, for right now, I feel I have a very fixed mindset in that aspect because I do not want to try what they are wanting to try.

One participant indicated that they do not battle mindsets as they used to do. Their response displayed growth in this area.

I do not battle the two mindsets any more than I used to I am very open to it by trying different things, especially with hybrid. I think every day is a new day for me to be learning new things. And I think it is pretty interesting because I am not perfect in what I am doing right now. But I feel I am learning along the way. I like these new challenges because it puts me in a place where I have to figure it out.

A different participant acknowledged their battle of mindsets. However, it was not a battle of the mindset in the classroom but in their personal life. Instead of battling a personal

mindset at work, the battle was with other colleagues' mindsets. The participant expressed it this way:

I struggle the battle of my mindset more at home, not at work. At work, I feel like I try to be really open to everybody. I am more struggling at work with other people's fixed mindset and having to accept the fact that I am moving from kindergarten to first grade. I have some really great ideas to help these kids who did not finish kindergarten and are kindergarten level. But nobody wants to hear my ideas when I just came from teaching these exact same kids. And I am really struggling with that more than anything. So, I feel like I do have more of a growth mindset, and I do not struggle as much with that at work. It is more at home personal life type stuff.

Everyone possesses both mindsets. It is a choice which mindset one exhibits in situations. For someone to fully embrace a growth mindset, Brock and Hundley (2016) emphasized they must intentionally work to employ it in every situation they face.

## **Summary**

Chapter 4 provided insight into the impact of educators' mindsets in an at-risk learning environment. This chapter described the findings of a correlation coefficient analysis comparing mindset scores to teachers' years of service, interviews, and focus group discussions. Chapter 4 also displays data and emerging themes of teacher mindsets, how those mindsets affect curriculum decisions, and the impact of mindset data on participants. The research questions were answered by the data presented concerning if a relationship exists between mindset and years of service, mindset's impact on the curriculum. The findings also revealed how the mindset score affected participants. The data collected further adds to the lack of literature surrounding teacher mindset's impact in an at-risk classroom.

## **Chapter 5: Discussion, Conclusions, and Recommendations**

The purpose of this mixed-methods case study was to acquire an understanding of teacher mindsets and the impact they have on instruction in an at-risk classroom. This mixed-methods case study included data gathered from nine teachers of varied experience and teaching contents in three at-risk elementary schools. The data collected through mindset quizzes, semistructured interviews, and focus group discussions were analyzed and interpreted employing the 7-step framework method and in vivo coding analysis. This data collection led to the development of data and themes presented in this study.

While their years of experience, teaching levels, and content differed, specific data and themes were noticeable in teachers' mindsets working in at-risk elementary classrooms. Each of the themes represents the voices of the participants in this study. The mindset data collected from the mindset quizzes of teachers working in an at-risk elementary school classroom revealed the following data:

- five teachers possessed a strong growth mindset;
- four teachers possessed a growth mindset with some fixed ideas,
- there was no correlation between mindset scores and years of service.

The perceptions teachers possessed of how their mindsets impact instruction in the at-risk classroom revealed the following themes:

- mindsets aid in their ability to differentiate for students;
- the belief they are more flexible in their thinking and open to new learning and change;
- reflection is a critical part of their lesson planning and teaching process.

Themes that emerged regarding the impact the mindset quiz had on participants revealed:

- all the teachers desired to possess a growth mindset;

- participants indicated they battle between both mindsets.

Data and themes developed in the study through careful data analysis utilizing a correlation coefficient and the aggregation of codes and categories. Categories enabled an in-depth analysis of participants' responses through manual coding, which presented answers to the study's research questions.

Chapter 5 summarizes the mixed-methods case study, including a discussion of notable findings related to the literature review on the impact of teacher mindsets in an at-risk classroom. Developing themes supplied answers to the research questions and provided recommendations for further action and work with teacher mindsets and the impact in an at-risk learning environment. This chapter also includes discussions and recommendations for future research options to answer the research questions:

**Q1.** What mindsets do teachers from large, suburban, at-risk elementary campuses possess, as indicated in a mindset quiz, and how do these scores correlate with years of experience?

**Q2.** How do teachers from large, suburban, at-risk elementary campuses perceive their mindsets affecting instruction?

**Q3.** In what ways did the mindset quiz positively or negatively impact teachers from large, suburban, at-risk elementary campuses personal perceptions?

### **Interpretation of the Findings**

This mixed-methods case study's objective was to acquire an understanding of teacher mindsets and the impact they have on instruction in an at-risk classroom. Nine teachers working in three at-risk campuses in a large, suburban school district served as participants in this study.

This study's findings supplied quantitative data, and the qualitative data presented emerging themes that are organized below the research questions.

***Research Question 1: What Mindsets Do Teachers From Large, Suburban, At-Risk Elementary Campuses Possess, as Indicated in a Mindset Quiz, and How Do These Scores Correlate With Years of Experience?***

The goal of research question number one was to determine if a correlation existed between a teacher's mindset and their years of service. Mindset scores and years of service were collected, and a correlation coefficient was done. It was hypothesized that teachers with more experience would earn a lower mindset score.

**Mindset Data.** The mindset scores collected exhibited that all nine participants possessed a growth mindset. This information highlights each teacher participating in the study believed in incremental theory, which the literature states is the brain's malleability and its ability to grow and improve by learning from mistakes, accepting feedback, and applying effort (Gunderson et al., 2018). Research from the United States reports that maintaining an incremental theory of intelligence or growth mindset aids in one's success. This mindset influences outcome and is a motivator (Passmore et al., 2017).

Self-determination theory focuses on motivation (Turner, 2019) and seeks to understand what drives people to action (Ryan & Deci, 2017). The literature supports how teachers in the study focused on how their mindset drove them toward not giving up on students when they were not experiencing success in the classroom. Instead, their determination to help their students propelled them to change what they were doing to help the learner advance and develop.

Wacker and Olson (2019) stressed that a teacher's belief in intelligence influences their students. An educator's perspective can have a profound influence on the achievement gap.

Schmid (2018) showed that the teachers experiencing academic gains with students in low-performing schools believed that the learning reflected the instructor. The nine participants in the study articulated in the focus group discussions how when a student is not succeeding it is not the student's fault but the teachers. Each educator emphasized the issue was in how they delivered the lesson. All participants stated they refused to give up on their students and pursued their academic growth with tenacity.

**Strong Growth Mindset.** Five of the participants showed that they held a strong growth mindset. Each of these five teachers expressed their belief they can grow their abilities and better their craft. The study participants who scored a strong growth mindset fit the study's operational definition of the incremental theory in teachers. Examples of the definition were expressed in their interviews and the focus group discussions, as they emphasized how they

- take the initiative for their learning and embrace new challenges;
- allow challenges and setbacks to fuel them toward the goal;
- put forth the effort to reach mastery and goal attainment;
- reflect on feedback and learn from it to better their practice;
- gain inspiration and learn from the success of others (Dweck, 2008).

One participant discussed their ambition for new learning.

I am really willing to take a bunch of classes and try to learn how to do things different. I am willing to take things I soak in from different classes and try to apply them to my curriculum to differentiate.

In a focus group discussion, another teacher voiced how the challenge of hybrid teaching had them analyzing their mindset and fueling them toward change to meet the goal of success with students.

We have to have that open mind with routines and the timing. And that is one thing that I struggled with. But with the children virtual and face-to-face, they are coming on; everybody may not log on at the same time. I have got to make sure I shift over and I know I have got to change something. They may need that extra minute or two. I may set it that at two o'clock let us get to work. Well, it may not work that way now, and it was not working that way, so I had to change. I did not want to; I battled with the schedule thing. The more I said two o'clock, and it was two o'clock and two o'clock, I finally said, oh, no, you need to change. You have to be flexible with this.

In an interview, one teacher discussed that being growth minded means taking feedback and growing from it. When asked what it meant to have a growth mindset, they replied:

So a growth mindset is you are willing to take correction from administrators or take ideas, attend training because there is something that you are willing to change something you are doing so you are willing to take suggestions on how you can make your craft better.

**Growth Mindset With Fixed Ideas.** Four participants displayed a growth mindset with some fixed ideas. The literature indicates that a growth mindset acknowledges a person's abilities can be developed (Dweck, 2014). A fixed mindset (entity theory) believes one is born with specific abilities that cannot grow and change (Li & Bates, 2019). The mindset quiz data on these four teachers displayed they believed in the development of abilities. However, the data also presented these participants' fixed ideas centered on the inability to change the essential things of a person or their intelligence.

Brain research has led to the discovery that it is not how intelligent a person is but instead the motivation that determines growth (Dweck, 2008; Perkins-Gough, 2013). IQ, a hard



cognitive skill, does not predict new learning or success. Hard cognitive skills are not the only factor in determining favorable outcomes (Blue, 2012).

**Mindset Scores Correlation.** It was hypothesized that teachers with more experience would display a more fixed mindset because of their years in education. Often, seasoned teachers are perceived as unmalleable (Secret Teacher, 2013). The data from the correlation of mindset scores and years of experience invalidated this hypothesis. It instead revealed the two teachers with 31 years of combined experience possessed the highest mindset scores indicating their malleability. This information indicates a mindset shift may be needed on how more senior teachers are viewed. Instead of seeing them as fixed and set in their ways, perhaps they should be viewed as rich assets.

***Research Question 2: How Do Teachers From Large, Suburban, At-Risk Elementary Campuses Perceive Their Mindsets Affecting Instruction?***

Research question number two sought to determine teacher perceptions of how their mindsets impact instruction. The literature reveals teacher beliefs impact their instructional practices and student learning (Smith et al., 2018). The research showed participants' mindsets aided them in differentiating the instruction to meet the students' varying levels in their classroom. Their mindsets also provided flexibility in thinking, which created an openness to learning and making changes in their instruction.

The data also showed growth mindset educators regularly reflect on their teaching practice to better their craft. This information supports the study's operational definition of a teacher with a growth mindset (Dweck, 2006). Participants identified a barrier affecting instruction and maintaining a growth mindset was the misunderstanding of curriculum changes

and why they had to occur. Participants also voiced their difficulties when working with other teammates who were shut off to ideas and innovation.

**Differentiation to Meet Student Needs.** Research is increasing on teacher beliefs and their influence on pedagogical decisions (De Karker-Paw et al., 2017). Differentiated instruction may mean a teacher uses the same materials for all students and employs various instructional methods to meet the varying needs of learners. It may also be delivering lessons at different levels depending on each learner's ability (Weselby, 2020). Participants taking part in this study indicated their growth mindset helped them differentiate for their students because they were not set on just one method or way of presenting instruction. One educator in the study indicated why differentiation was needed

I do not try to teach the same way all the time; it does not work for everyone. It is important I am providing something for different learning styles and different abilities to reach all of those different kids instead of having to do it this way. This is the only way I want to do it. It's not about how I want to do it. It is about what they need.

Teachers in the study acknowledged the need to change, take risks and get out of their comfort zones to meet their students' needs (NeuroLeadership Institute, 2020).

**Flexibility in Thinking and an Openness to Learning and Changing.** Growth minded people exhibit flexibility in their thinking. Participants in the study indicated that flexibility in thinking is a big part of a growth mindset. Discussion groups focused on the importance of being open to change, suggestions, and learning new methods. One participant indicated this flexibility was almost mandatory right now as they teach during a pandemic.

I am just thinking like in this day and age a person cannot afford to have a fixed mindset. Flexibility really is key because your day-to-day changes. So, flexibility and just being

open to change and suggestion is almost mandatory right now. You cannot be stuck just thinking one way. You have to address the different learning styles in your classroom. If you are just sticking to one way of teaching and not adapting, you are missing a lot of those children.

Many indicated how teaching looked different because they were teaching the hybrid model. In this model, teachers spoke of how they teach face-to-face and virtual students simultaneously. All participants acknowledged they were up to the challenge. Participants indicated that through the changes and challenges, their teaching craft would grow and improve.

The literature on growth mindset emphasizes that skills and abilities can be developed (Dweck, 2014). Teachers in the study stated it was through mistakes they were learning, and this motivation kept them going to continue on their journey of growth (Rhew et al., 2018). Participants saw their mistakes as they learned new technology as an opportunity for learning and trying again (Brock & Hundley, 2016). New learning and growth occurred as teachers took part in classes or listened, watched, and learned things from colleagues.

In the literature, Duncan and Murnane (2014) highlighted how schools come alongside families to partner and level the playing field for students to help overcome the achievement gap. Teachers in the study focused on how their flexibility of thinking and openness helped them work with the students and their families. Many participants recognized how they understood that all students and parents are coming from different perspectives and backgrounds (Aspen Institute National Commission on Social-Emotional and Academic Development, 2019). A participant vocalized it this way

With students and parents for me, I feel like I have to have a growth mindset because we do not come from the same background. Their lives are different, and they may see things

differently than I do. I feel like I have to navigate around their personalities and their feelings. At the end of the day, they want to be happy. I want everything to work out. The educators were clear on the need to show sensitivity in their work with students from poorer backgrounds (Chao et al., 2017). They recognized the importance of adapting in their work with their at-risk families to meet student needs to close the achievement gap.

**Teacher Reflection Process.** Reflection is a critical component of the study's operational definition of a teacher possessing a growth mindset (Dweck, 2006). Participants in the study acknowledged their use of reflection to better instruction for their students. Many indicated they made changes as they taught because they could see their students were not engaged or understanding the concept. A participant emphasized the importance of this by saying,

I have to have the flexibility to make changes. If I am doing something and I am asking the kids questions, and they do not quite understand, or they cannot answer my question back to me, I have to change. I need to change how I am teaching then. I cannot stand there and try to think about it for five or 10 minutes because it has to keep rolling.

The relationships the teachers developed with their students helped them identify this disengagement or misunderstanding. Relationships are critical between teachers and students, especially for at-risk learners (Wacker & Olson, 2019). As teachers reflect and plan, their students' knowledge drives them to make changes to their lessons to meet student needs. All participants emphasized the significant role they play in a student's academic achievement (Mizrav, 2019). This awareness compelled them to deeper reflection to make solid instructional decisions to reach every child.

***Research Question 3: In What Ways Did the Mindset Quiz Positively or Negatively impact Teachers From Large, Suburban, At-Risk Elementary Campuses Personal Perceptions?***

Research question number three focused on determining the impact the mindset quiz had on teachers' perceptions. In interviews, some teachers indicated surprise at the score they received. All participants expressed their desire for a growth mindset and regularly battle between a fixed and growth mindset.

**Desire for a Growth Mindset.** Teachers taking part in the research understood their impact and how their mindset leaves a footprint on student learning (Vartuli, 2005). Participants identified their perspectives on intelligence could profoundly impact the achievement gap (Wacker & Olson, 2019). The literature emphasized how important it is teachers are aware of their mindset, so they instruct in alignment with their beliefs (Jonsson et al., 2012). This knowledge is why each teacher expressed their desire to possess a growth mindset. All participants acknowledged the importance of mindset and its influence on their instruction and day-to-day interactions with students, parents, and colleagues. In interviews and focus group discussions, all vocalized how crucial it is to maintain a mindset set towards growth to bring about success in their classrooms. It is the teacher's mindset that shapes the culture of their classroom (Rissanen et al., 2018). That is why participants voiced their desire to have a growth mindset.

**Battle of the Mindsets.** The participants confirmed what the literature stated about the battle between the mindsets. Everyone has both mindsets; it just depends on how one actualizes it. In the study, each teacher stated they struggle and are torn between growth and fixed mindsets for varying reasons. One provided a specific example of choosing a fixed mindset instead of growth because the participant did not want to move out of a comfort zone (Dweck, 2008). Clark

and Sousa (2018) expressed that this thought process occurs because the individuals do not want to tackle a new task. Those taking part in the study said they battle the two mindsets regularly. Participants also stated their struggle when battling other people's mindsets, especially in their work with other colleagues. One teacher discussed the difficulties of this while planning for instruction. Colleagues with fixed mindsets refuse to be open to new ideas, and this is frustrating.

### ***Implications***

As a result of this study, there are implications that more work on the understanding and impact of teacher mindsets needs to occur in education.

**Theoretical Implications.** Implicit or mindset theory focuses on the nature of abilities (Warren et al., 2019). The theory's thought is the development of individuals and their minds is possible (Kegan & Lahey, 2016). A central goal for all educators is growth. Schools must demonstrate ways development occurs for teachers on the campus to better outcomes for students. If mindsets profoundly impact a person's behavior, educators must know the mindset they possess. Participants in this study indicated they believed they possessed a growth mindset. Some indicated their surprise at their mindset score because they believed they possessed a strong growth mindset. When the score showed they held some fixed ideas; they were disconcerted. Schools must provide opportunities for teachers to discover the mindset they hold. If a teacher holds a growth mindset with fixed ideas or a fixed mindset, awareness is needed. Awareness is the only way to address it and work toward change and growth.

Self-determination theory centers on motivation and seeks to understand specific behaviors and actions (Ryan & Deci, 2017). This theory indicates three psychological needs that, when met, there is an optimal opportunity for motivation, well-being, and growth. The essential things that need to be met are autonomy, competence, and relatedness (Ryan & Deci, 2017).

Participants in this study who possessed a growth mindset indicated their psychological needs were being met on their campus. If administrators want to build motivation in their teachers, they must meet these needs for the staff. By doing this, it will help assure their well-being, so educators will want to experience growth. When teachers grow, it impacts student success.

**Practical Implications.** People thrive in growth minded environment and are more deeply engaged in their work (NeuroLeadership Institute, 2020). Participants indicated in the study it was discouraging working with fixed minded people. One educator discussed that she would share ideas, and the team would blow her off. The educator voice that they continued to share and do their own thing, but they did not have comradery with the team to build overall grade-level success. If school district and campus leaders take specific steps to build growth minded environments, it will produce a more committed staff. A dedicated staff creates better learning outcomes.

Participants also indicated their lack of knowledge on the topic. Each educator indicated a desire to possess a growth mindset and teach it to their students. However, their deficit in training caused a lack of implementation. Campuses can build teachers' capacity by providing training on mindsets and their impact on classroom instruction in an at-risk environment. A teacher's mindset impacts their actions. Training on mindset is essential to help teachers maintain a growth mindset and utilize it when making instructional decisions.

**Future Implications.** One participant indicated she thought growth mindset was a buzzword. Teachers are excited and support the idea but do not know how to incorporate their mindset and beliefs into their classrooms for a more significant impact. Blad (2016) indicated that without sufficient research, a growth mindset could become a buzzword. If mindsets impact a person's overall success, then more opportunities for research, training, and implementation

need to occur in education. The literature on the topic revealed a small number of training opportunities, but more need to evolve for more significant impact. School and district leaders also need to incorporate growth mindset focuses and practices daily to build growth mindset capacity.

### ***Recommendations for Future Research***

Based on the study's findings, there are several opportunities to extend the research on the impact of teacher mindsets working in at-risk classrooms. As a result of the findings, the following recommendations for future research are proposed:

**Extend the Study to Various Areas.** First, researchers might consider extending the study to include educators working in at-risk campuses in other parts of the state and nation. Including participants from varying areas would allow the study of educators working with diverse types of at-risk students, from the suburbs to the inner-city. All at-risk learners enter further behind their more advantaged peers (Garcia & Weiss, 2017b). Even so, the cultures surrounding their lifestyle provide a different narrative and impact educators' mindsets working with them in various ways.

**Examine the Culture and Leadership of Campuses.** Secondly, the research may want to examine the campus's culture and leadership where the participants teach. Many of the participants referenced their campus. As they discussed their working environments, most vocalized mindset had been a focus presented by their school administration. Gaining insight into the campus culture and leadership will help understand how educator mindsets can be developed. It may also reveal best practices utilized by at-risk campuses to build mindsets in staff and students.



**Involve More Educators From Varying Levels in the Study.** The third recommendation is to involve more educators from multiple levels in the research. Nine elementary teachers working in three at-risk campuses took part in the study. It is recommended to include more educators for future studies to gain a more extensive viewpoint and understanding of mindsets. It is also recommended that educators come from elementary campuses and middle schools, and high schools. There is a definite difference in the way educators from the varying levels interact and respond to students, parents, and colleagues. By including educators from the varied levels, the research would contribute additional perspectives of mindset.

**Gather Additional Data From Observations, Time in Planning, and Interactions.** The fourth recommendation is to include classroom observations, time spent in planning times, and listening in on parent communication interactions as part of the data collection. Observing the teachers in the instructional environment and interactions will enable the researcher to witness which mindset the teacher employs. This data would present the opportunity to see the mindsets of participants in action.

**Carry Out a Longitudinal Study That Includes a Training Piece.** The final recommendation is to do a longitudinal study on teacher mindsets to see the impact in at-risk classrooms that occur over the years. A training piece on mindsets for participants in the study would be beneficial. Participants in this study lacked training. Some were not certain they had an accurate idea of what growth and fixed mindset meant. In a longitudinal study, teachers participating could engage in mindset training. Following the training, participants could take their learning and apply it to their classroom instruction. Data could include before and after mindset interventions to see if the training made a difference in the participants' classroom

instruction, interactions with students, parents, and other colleagues, and student academic growth.

## **Reflections**

The main goal of research is to gather evidence for theories and provide emerging knowledge to a field of study (Zarah, 2021). Throughout the 21st century, the research of growth mindset has broadened. Benefits of possessing a growth mindset have surfaced, especially regarding educators. Researchers have focused on how instructors with a growth mindset are more willing to take risks, persevere through challenges, and model this same behavior for their students. They also encourage their students to think and act the same way (Ahmed & Rosen, 2019). According to Dweck (2016), teachers that possess a growth mindset believe they can grow their abilities and better their craft. Educators who hold a growth mindset display the following traits:

- take initiative for their learning and embrace new challenges;
- allow challenges and setbacks to fuel them toward the goal;
- put forth the effort to reach mastery and goal attainment;
- reflect on feedback and learn from it to better their practice;
- gain inspiration and learn from the success of others (Dweck, 2008).

The challenge is for teachers to maintain a growth mindset. Many misunderstandings on the topic create a failure for educators to grasp the concept (Patrick & Joshi, 2019). This thought was apparent in discussions with participants in the study. When asked what it meant to have a growth mindset, one participant expressed their lack of clarity of the idea with this reply “I think I am wondering if my definition is correct because we were taught it is more about social-emotional growth.”

In addition to teachers lacking understanding of the concept, many possess a growth mindset but do not actualize in the classroom (Rissanen et al., 2019). Some research showed teacher practices contrasted with their beliefs (Poole-Christian, 2009). Teacher beliefs include their thoughts, ideas, perceptions, and values. A teacher's belief impacts student learning (Vartuli, 2005). Educator perspectives can have a considerable influence on the achievement gap.

America has been trying to close the achievement gap since 1965, when ESEA was enacted (Brenchley, 2015). Despite the efforts, underprivileged students continue to struggle. With the recent pandemic, all student learning has been set back, especially for at-risk learners (Dorn et al., 2020). Teachers play the most significant role in a student's academic achievement (Mizrav, 2019). Growth minded educators look past where a student comes from and sees what they can be. These instructors can help close the achievement gap, not hide it (Dweck, 2006).

Educational institutions could employ the research found in this study to help teachers learn what mindset they hold. By identifying the mindset, they possess, educators would know what mindset they bring to their classroom and instructional practices. It would also be beneficial for schools and districts to engage teachers in training on mindsets and their classroom impact. A proper understanding is needed of the concept so teachers can learn to incorporate mindset practices into their classroom cultures and teaching strategies, including providing feedback to students. Seven out of the nine participants in the study indicated they had not had any training on the topic but thought it would be beneficial. One participant expressed it this way:

I think it is kind of like a buzzword that has been around for three or four years. I mean, we had someone in our school who brought it up, someone on my team. They kind of brought it up and kind of shared a little bit with us. I think training would mean more like

the foundation of it. Most people have a general idea what it is, but not really the research behind it or how to convey it, how to teach it, especially with your kids.

This thought supports Dweck's (2016) concerns for a false mindset and how it can distort the work and lose impact on student achievement. Training is necessary so educators will not misinterpret and undermine the growth mindset's effectiveness (Education Week Research Center, 2016).

America is facing even more challenges with the loss of learning that occurred when the school shut down due to COVID-19. The achievement gap is widening for at-risk students. If teacher beliefs impact student success and help close the achievement gap (Dweck, 2006), further steps need to be taken to build mindset awareness in educators. Teachers are also experiencing changes in their instructional practices with the introduction of hybrid and online teaching. A growth mindset is needed to tackle this new method of instructing. This study sought to understand teacher mindsets and the impact they have on an at-risk environment.

## **Conclusion**

Unlike educators who work with more affluent students, at-risk educators work every day with students from underprivileged families. These households can only meet their homes' basic needs sporadically and sometimes not at all (Hanushek et al., 2017). At-risk teachers work every day to level the playing field for disadvantaged students. The economic disparity these students are coming from directly impacts learning (Hanushek et al., 2015).

This research conducted a correlation coefficient to gather quantitative. The researches goal in using quantitative data was to determine if a comparison existed between teacher mindsets and their years of service. In addition to the quantitative data, interviews and focus group discussions were conducted to gather qualitative data. The research sought to understand

teacher mindsets and their impact on instruction in the at-risk elementary school classroom. During the interviews and focus group discussions, all participants indicated the need for and desire to maintain a growth mindset. Each discussed the need for reflection on instruction to meet the needs of their students better. Many expressed when a student was not experiencing success in the classroom, it was not the student's fault but the teacher's and the instruction they provided. When this occurred, the teachers reflected and made changes to what they were doing in the classroom. One participant expressed it this way:

Every child deserves the same thing. It is not a student problem; it is a teacher responsibility. That is the mindset we have to go on. It may not work, and I cannot say well; I taught it, and it does not work that way. If it did not work with plan A, I better have two or three backup plans because I need to meet all the children. When this occurred, the teachers reflected and made changes to what they were doing in the classroom.

Transcription of the interview and focus group discussions enabled me to analyze the mindsets of teachers deeply. All participants were from varying campuses that differed from mine. The difference in school locations eliminated the chance of bias. One participant was unable to take part in the focus group discussions due to a family emergency. However, their mindset score was captured with the mindset quiz. Their perspective was also included through the interview.

Mindsets profoundly influence people's view of the world. A person's belief about intelligence (fixed or growth) has been revealed to significantly mark the impact of outcomes, either success or failure (Smith et al., 2018). Individuals possessing a growth mindset show to have higher self-esteem and performance improvement (Clark & Sousa, 2018). Mindsets are

vitally important, but educators have not received training on the topic. Information is lacking regarding the type of mindset an educator holds and its impact on instruction. This mixed-methods case study sought to determine teachers' minds working in an at-risk environment and the impact it has on their instruction.

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Academe

## Appendix A: Institutional Review Board Approval Letter

### ABILENE CHRISTIAN UNIVERSITY

*Educating Students for Christian Service and Leadership Throughout the World*

**Office of Research and Sponsored Programs**

320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103  
325-674-2885



September 4, 2020

Michelle Rice  
Department of Educational Leadership  
Abilene Christian University

Dear Michelle,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Case Study: Teacher Mindsets and Its Impact on Instruction in an Elementary At-Risk Classroom",

was approved by expedited review (Category 7 ) on 9/4/2020 (IRB # 20-109 ). Upon completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with your work.

Sincerely,

*Megan Roth*

Megan Roth, Ph.D.  
Director of Research and Sponsored Programs

## Appendix B: Informed Consent

### Case Study: Teacher Mindsets and Its Impact on Instruction in

Below is the notice for informed consent. Please read and select if you would like to participate.

\* Required



<b>Study title</b>	Case Study: Teacher Mindsets and Its Impact on Instruction in an Elementary At-Risk Classroom
<b>Researcher</b>	Michelle Rice, EdD Student from Abilene Christian University

I am inviting you to participate in a research study. Participation is completely voluntary. If you agree to participate now, you can always change your mind later. There are no negative consequences, whatever you decide.

#### Overview

The achievement gap between disadvantaged students and their advantaged peers is a problem that has been a concern since Brown vs. the Board of Education Supreme Court case in 1954 (Kevelson, 2019). The problem continues to exist, and little progress has been made at closing the gap (David & Marchant, 2015). Research shows that the mindset of a teacher can help address the achievement gap.

**Purpose:** The goal of this study is to examine teacher mindsets in at-risk, suburban elementary campuses to determine its impact on instruction

**Procedures:** Participants take an online mindset assessment and provide their years of service. Individual interviews will occur with the researcher via video conference to share individual points of view. Participants will also take part in a video conference focus group discussion to discuss the mindset quiz and the impact your mindset plays on classroom instruction.

**Time Commitment:** 3 hours

**Primary risks:** The only harmful effect of this study could be the potential lack of confidentiality from other participants in the focus group. There will be no physical risks for participation.

**Benefits:** The benefits of participating in the study is the opportunity to contribute to the impact of mindset to better instruction in the school district. It will potentially help other educators in the future. It is the researchers hope that this study will contribute to the field of education and growth mindset. I cannot guarantee, however, that you will receive any benefits from participating in this study.

#### What is the purpose of this study?

The purpose of this study is to understand mindsets of teachers working with at-risk students to see if there is a comparison between their years of experience and their mindsets. It is also the goal to see your understanding of mindset, frustrations with it and the topic, and learn how it impacts your instructional decisions, as well as your interactions with students, parents, and other colleagues.

#### What will I do?

Permission will be obtained for you to take part and to allow me the opportunity to access your years of service record. Following obtaining permission, you will be sent an online mindset assessment to take

## Consent Form Continued

and return to the researcher for comparison between your mindset results and your years of service in education.

After the completed mindset quiz, a one on one interview via video conference will be set up at a mutually agreed upon time. In the interview, questions will be presented to you about your understanding of mindset and what mindset you believe you possess. The results of your mindset quiz will also be shared with you during the interview time. In addition to the one on one interview, you will be in a focus group with about 5 other people. The focus group will occur via video conference and the discussion will center on expanding on the topic of mindset and the understanding and impact it plays in instructional decisions and interactions of you and other colleagues within the district.

### Risks

Possible risks	How we're minimizing these risks
Others in the focus group could share your responses	We ask everyone to keep everything said during the focus group confidential. However, we can't control what others say, so it is best not to share anything you don't want others to know.
Breach of confidentiality (your data being seen by someone who shouldn't have access to it)	<ul style="list-style-type: none"> <li>• Data is anonymous. If the information from the study is shared, participants will be given a pseudonym</li> <li>• All electronic data will be password protected known only by the researcher.</li> <li>• All paper data will be stored in a locked filing cabinet in a locked office.</li> </ul>
Online data being hacked or intercepted	<ul style="list-style-type: none"> <li>• This is a risk you experience any time you provide information online. We're using a secure system to collect this data, but we can't completely eliminate this risk.</li> </ul>

There may be risks we don't know about yet. Throughout the study, I will tell you if we learn anything that might affect your decision to participate.

### Other Study Information

Possible benefits	<ul style="list-style-type: none"> <li>• The opportunity to contribute to the impact of teacher mindset on instruction</li> <li>• Potentially help other educators working in the field</li> </ul>
Estimated number of participants	8-12 teachers
How long will it take?	Approximately 3 hours
Costs	No cost
Recordings	We will record the video conferences to reference for data collection. The recording is necessary to this research. If you do not want to be recorded you should not be in this study.

### Confidentiality and Data Security

We'll collect the following identifying information for the research: name, phone number, email address, and years of service. This information is necessary for contacting participants and doing a

## Consent Form Continued

comparison between the mindset score and years of service. Confidentiality will be maintained to the extent allowed by the law.

<b>Where will data be stored?</b>	On a computer or iPad protected by a password known only by the researcher
<b>How long will it be kept?</b>	The data will be kept for five years

### Voluntary Nature of Participation

Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits which you are allowed.

<b>Who can see my data?</b>	<b>Why?</b>	<b>Type of data</b>
The researchers	To conduct the study and analyze the data	Name, email, phone number, service record, mindset quiz and results, comparison of the quiz and service record results, recordings of interviews and focus group discussion
The IRB (Institutional Review Board) at UWM The Office for Human Research Protections (OHRP) or other federal agencies	To ensure we're following laws and ethical guidelines	Name, email, phone number, service record, mindset quiz and results, comparison of the quiz and service record results, recordings of interviews and focus group discussion
Anyone (public)	If we share our findings in publications or presentations	If share in publications or presentations, the following will be used: <ul style="list-style-type: none"> <li>• Aggregate (grouped) data</li> <li>• De-identified (no names, birthdate, address, etc.)</li> <li>• If we quote you, we'll use a pseudonym (fake name)</li> </ul>

### Questions about the Study

If you have any questions about the research, contact information is listed below.

### Contact information:



## Consent Form Continued

<b>For questions about your rights as a research participant</b>	IRB (Institutional Review Board; provides ethics oversight)
<b>For complaints or problems</b>	Michelle Rice
	IRB

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1. Please select the option you prefer \* \*

Mark only one oval.

☐

I understand the above and consent to participate. Skip to question 2

☐

I do not wish to participate in your current study.

Skip to section 3 (Thank you for your time and consideration.)

### Teacher Information

2. Signature Confirming Consent \* \*

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3. Participant's Years of Experience \*

---

4. Participant's Current Teaching Assignment \*

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5. Participant's Email \*

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6. Participant's Phone Number \*

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### Appendix C: Mindset Quiz

Place a check in the column that identifies the extent to which you agree or disagree with the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Your intelligence is something very basic about you that you can't change very much.				
2. No matter how much intelligence you have, you can always change it quite a bit.				
3. You can always substantially change how intelligent you are.				
4. You are a certain kind of person, and there is not much that can be done to really change that.				
5. You can always change basic things about the kind of person you are.				
6. Music talent can be learned by anyone.				
7. Only a few people will be truly good at sports – you have to be “born with it.”				
8. Math is much easier to learn if you are male or maybe come from a culture who values math.				
9. The harder you work at something, the better you will be at it.				
10. No matter what kind of person you are, you can always change substantially.				
11. Trying new things is stressful for me and I avoid it.				
12. Some people are good and kind, and some are not – it's not often that people change.				
13. I appreciate when parents, coaches, teachers give me feedback about my performance.				
14. I often get angry when I get feedback about my performance.				
15. All human beings without a brain injury or birth defect are capable of the same amount of learning.				
16. You can learn new things, but you can't really change how intelligent you are.				
17. You can do things differently, but the important parts of who you are can't really be changed.				
18. Human beings are basically good, but sometimes make terrible decisions.				

19. An important reason why I do my school work is that I like to learn new things.				
20. Truly smart people do not need to try hard.				

**Circle the number in the box that matches each answer.**

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. ability mindset – fixed	0	1	2	3
2. ability mindset – growth	3	2	1	0
3. ability mindset – growth	3	2	1	0
4. personality/character mindset – fixed	0	1	2	3
5. personality/character mindset – growth	3	2	1	0
6. ability mindset – growth	3	2	1	0
7. ability mindset – fixed	0	1	2	3
8. ability mindset – fixed	0	1	2	3
9. ability mindset – growth	3	2	1	0
10. personality/character mindset - growth	3	2	1	0
11. ability mindset – fixed	0	1	2	3
12. personality/character mindset – fixed	0	1	2	3
13. ability mindset –growth	3	2	1	0
14. ability mindset – fixed	0	1	2	3
15. ability mindset – growth	3	2	1	0
16. ability mindset – fixed	0	1	2	3
17. personality/character mindset – fixed	0	1	2	3
18. personality/character mindset –growth	3	2	1	0

19. ability mindset – growth	3	2	1	0
20. ability mindset – fixed	0	1	2	3
Total				
Grand Total				

### **Mindset Scale**

Strong Growth Mindset = 45 – 60 points

Growth Mindset with some Fixed ideas = 34 – 44 points

Fixed Mindset with some Growth ideas = 21 – 33 points

Strong Fixed Mindset = 0 – 20 points

### **Appendix D: Interview Guide**

1. What is your understanding of what it means to have a growth/fixed mindset?
2. Do you think a person's mindset matters? (Prompt: why or why not, please expand)
3. How do you think your mindset affects your curriculum decisions?
4. Do you think your mindset impacts your interactions with your students, parents, other staff members? (Prompt: why or why, please expand)
5. Have you had any training about growth/fixed mindset?
6. What has that training entailed?
7. Do you think this training has made a difference in your instruction?
8. Do you have any additional comments to share?

### **Appendix E: Focus Group Discussion Guide**

Greet participants as they join the video call. Make participants feel welcome and valued.

*Then move into expressing the purpose of the focus group:*

The purpose of this focus group is to examine teacher mindsets and the impact they have in a primary at-risk classroom. I will be recording our discussion for research purposes only.

Information of identities will be kept confidential. If you do not want to take part, please feel free to leave the discussion at any time.

Through a series of questions, I would like you to interact and expand on the topic of mindsets. I want your honesty as you elaborate on the following: your understanding, frustrations, how it impacts your instructional decisions, as well as your interactions with students, parents, and other colleagues. We have a lot to discuss, so let's begin.

#### *Discussion*

1. How would you define a teacher with a fixed mindset?
2. How would you define a teacher with a growth mindset?
3. Do you battle between the two mindsets? (Prompt: why)
4. When you battle between the two mindsets, what happens?
5. What mindset do you tend to take on when you are dealing with a difficult student, parent, or co-worker?
6. Which mindset dominates when you plan instruction?
7. What happens when students do not understand or achieve after giving instruction?
8. Do you have anything else you would like to share?

Thank you all for taking part in our discussion. You have provided helpful information and I am so appreciative.