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## Effects of Growth Mindset on a Student's Educational Experience

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Effects of Growth Mindset on a Student's Educational Experience

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Master of Arts in Educational Leadership

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## DEDICATION

To my wife Melanie. Through pregnancy and the early arrival of our baby boy, you supported me during my long days and late nights of research and writing.

To James. For being patient and waiting to play catch until dad could finish the sentence or paragraph.

To Archie. Your smiles and cuddles relieved my stress and provided me with much needed snuggle breaks.

To Melanie, James, and Archie. Thank you for your support, understanding, and love through all of this. Dad has a little more time to play catch now!

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### Abstract

While schools focus on a students' intelligence and academic growth, a lack of self-efficacy and growth mindset may create a larger challenge for kindergarteners through twelfth graders to make proper academic growth. In an attempt to achieve academic success, this paper sought to gain an understanding of growth mindset strategies and interventions by synthesizing available research studies on the topic. Research showed that the implementation and application of growth mindset interventions encouraged growth mindset beliefs and can lead to higher success rates in overall academic outcomes. In addition to a shift in beliefs, students also saw increased levels of motivation, self-efficacy, and perseverance as a result of the interventions. However, not all studies showed sustained longevity of growth-minded beliefs in students, seeing changes last for short periods of time before returning to pre-existing beliefs. These results call for a continuous need for growth mindset development and practices among educators to strengthen the collaborative approaches and understanding of the implementation process taken in schools. As a result, professional development on continuous learning and teaching practices of a growth mindset will help to sustain the higher levels of academic achievement produced through interventions.

*Keywords:* Academic Achievement Gap, Fixed Mindset, Growth Mindset, Intervention, Self-Efficacy

### Effects of Growth Mindset on a Student's Educational Experience

For years, educators continuously pursue new and innovative ways to improve the educational outcomes for their students and to close the academic achievement gap within their schools. While schools focus on a students' intelligence and academic growth, a lack of self-efficacy and growth mindset may create a larger challenge for kindergarteners through twelfth graders to make proper academic growth. Duckworth (2013) suggests that in education, the one thing we know how to measure best is intelligence quotient (IQ), but what if doing well in school and in life depends on much more than your ability to learn quickly and easily? Both self-efficacy and mental mindset have a large impact on the choices a child makes toward perseverance, effort, and ultimately their success in school.

The lack of self-efficacy and having a fixed mindset are closely related when it comes to a students' ability to succeed in the classroom. Students with a lack of self-efficacy believe they will not be successful, while students with a fixed mindset tend to give up easily because of their belief that they lack the intelligence to complete a task. Boaler (2016) writes about the reasons why students grow up with a fixed mindset:

One reason so many students in the United States have fixed mindsets is the praise they are given by parents and teachers. When students are given fixed praise – for example, being told they are smart when they do something well – they may feel good at first, but when they fail later (and everyone does) they think that means they are not so smart after all. (p. 7)

When challenged with a new task, children with a fixed mindset tend to view challenges as something that will hold them back and will not let them be successful. This can cause their perseverance in activities to decrease and ultimately slow their academic success and growth.

In light of this issue and what educators know about their students, there are many ways to create a culture of growth mindset within the classroom. Busch (2018) found that the majority of children praised based on intelligence were concerned about how others performed compared to themselves, but when children were praised based on effort, they became more likely to choose further activities that would spark new knowledge instead of activities that would make them look smart. Dweck (2014) also suggests that educators should focus on praising the process that kids engage in, their effort, their strategies, their focus, their perseverance, their improvement. This process praise creates kids who are hardy and resilient. By simply changing the way that educators give feedback and speak to their children, they can start to establish a mindset focused on the future and growth.

Educators need to begin to shift the way they teach. Communication and interaction with students at school should promote passion, perseverance, and grit among students. Students with a growth mindset have a better chance to succeed when challenges arise because of the mental mindset they have established. Understanding the connections between mental mindsets and academic growth can reveal a multitude of potential ways educators can meet the needs of their students and close the academic achievement gap within their schools.

The studies that have been reviewed in this paper focus primarily on a diverse group of students ranging from kindergarten to twelfth grade across multiple countries and cultures, but also draw attention to the type of teaching styles and mindsets educators need to effectively meet the needs of their students. The reviewed literature offers a mixture of qualitative and quantitative studies to offer supporting arguments for the implementation of growth mindset interventions amongst K-12 students.

### **Scope of Research**

The academic achievement gap has continued to impact the decisions educational leaders make on a daily basis. In attempts to reduce this achievement gap, educational leaders have turned to various strategies or interventions throughout the years, with growth mindset being one of those specific interventions. The focus of this study is to address the various mindset interventions, the academic impacts of a growth mindset versus a fixed mindset, the impacts of specific parent and teacher language, and the lack of professional development for educators around growth mindset. While reviewing different literature, these four strands consistently appeared in the studies connected to growth mindset.

### **Importance of the Study**

It is expected that all students make academic growth throughout a given school year, but due to the lack of motivation, perseverance, or mental mindsets of some students, students are failing to achieve the growth needed to be deemed successful throughout the year. Students with a fixed mindset are at risk of making slower to no growth than students with a growth mindset. Districts must begin to address this need for mindset interventions to help prevent the academic achievement gap from increasing year to year. By increasing the mental mindset strategies and interventions in schools, districts will begin to see a shift in student success and progressive or aggressive growth will help to lower the academic achievement gap.

### **Research Questions**

The purpose of the current study is to address the following question: Given the effects of the rising academic achievement gap in K-12 schools, how does having a growth mindset affect a student's motivation, self-efficacy, and grit within their K-12 educational experience?

***Connection to the Program Essential Question.*** In light of what is known about how children learn and educational policy and practice, how will understanding the connection between a student's mental mindsets and their academic performance better prepare educators for today's classroom?

### **Definition of Terms**

***Academic Achievement Gap*** is a term used frequently in education to indicate a disparity in academic performance between diverse groups of students (Ansell, 2020). In this study it will refer to students scoring significantly lower on summative assessments, standardized tests, and report card targets, among other success measures.

***Fixed or Entity Mindset*** is a term used to describe the belief that intelligence is based on a person's preconceived talents and abilities instead of intelligence being something that someone can develop over time. Dweck (2014) suggests that the fixed mindset creates an internal monologue that is focused on judging. For instance, one may internally say, "This means I'm a loser" or "this means I'm a better person than they are."

***Growth or Incremental Mindset*** refers to the belief that one's ability is expandable and can be developed with effort and practice. Dweck (2014) suggests that someone with a growth mindset is constantly internalizing and monitoring what is going on around them, processing the implications for learning in a constructive action. For instance, one may ask themselves, "What can I learn from this? How can I improve? How can I help my partner do this better?"

***Intervention*** refers to the act of intervening in order to improve a situation (Schmidt, Shumow, & Kachar-Cam, 2017). In education, interventions are often put in place to assist lower academically achieving students to close the gap and reach grade level success. Studies within

this paper use growth mindset interventions in an attempt to raise the achievement level within k-12 schools.

*Self-Efficacy* refers to an individual's belief and confidence in their capability to perform at a successful measure while completing a task (Bedford, 2017).

### **Summary**

Over the years, educators have made significant attempts to refine and improve the educational outcomes of students while trying to narrow the academic achievement gap in schools. Chapter one laid the foundation of understanding the educational issue of a fixed mindset in schools today and began to offer insight into the implementation of more interventions, curriculum, or activities that promote growth mindsets in school. Studies within this paper will go on to provide further supporting research that a students' mindset can affect their growth over time, which in turn benefits schools by helping to close the academic achievement gap.

The following chapter, Chapter Two: Literature Review, will examine different growth mindset interventions and their effects on student academic achievement growth within schools across the world. This will be done by reviewing various scholarly journals and research studies that have conducted different types of mindset interventions or strategies within school settings. Chapter Three: Summary, will review the research question, the main points of the literature review and the results of the various mindset interventions. Chapter Four: Discussion/Application and Future Studies, will identify the insights gained through the research studies and discuss future steps that need to be taken in order to ensure high academic achievement growth for K-12 students.

## Chapter Two: Literature Review

As the academic achievement gap in schools continue to rise, educators remain focused on strategies and interventions that will help positively change the overall educational experience of students. It is essential, therefore, that educators understand the importance of the differing mindsets that children may have while navigating through their learning. Therefore, this paper addresses the question, “How does having a growth mindset affect a student’s motivation, self-efficacy, and grit within their K-12 educational experience?” In order to be effective in this regard, educators and administrators should fully understand the current research regarding various mindset interventions, the academic impacts of a growth mindset versus a fixed mindset, the impacts of specific parent and teacher language, and the lack of professional development for educators around growth mindset.

### **Mindset Interventions**

The reviewed literature on mindset interventions showed consistent results regarding the effectiveness of changing student mindsets and altering attitudes towards process-oriented over product-oriented thinking. Blackwell, Trzesniewski, and Dweck (2007) suggest that adolescent children tend to experience more rapid changes within their maturity, shifting and conflicting societal roles and demands, and an increase in relational and educational expectations. These experiences led many researchers to focus their mindset intervention studies on adolescent teens entering grade levels between seventh and tenth grade. However, researchers such as Snipes et al. (2017) and Martin et al. (2019) studied a variety of grade levels to gain perspective on the mindsets of students across a k-12 school system.

Although there are a variety of different mindset interventions, all interventions portrayed the same consistent message to students; that learning new things can change, spark and grow the brain by

forming new connections and that students are in charge of this process. Mindset interventions may differ from researcher to researcher, however most consisted of similar growth mindset methods.

Commonly seen intervention methods include: a pre-survey or questionnaire; lessons about how the brain works is like a muscle and grows as you learn new things; a comprehensive written component; a self-persuasion task, usually asking students to write about what they learned and recommend readers to work hard and keep trying; post-survey or questionnaire; and the collection of qualitative student data (Bedford, 2017; Blackwell et al., 2007; Burnette et al., 2017; DeBacker et al., 2018; Donohoe et al., 2012; Schmidt et al., 2017; Yeager et al., 2016). The following studies were conducted by several researchers and show the various methods of a growth mindset intervention that they used throughout their research.

For the past few decades, Dweck and Blackwell have become known for their research around area of growth mindset and its connection to academic results. Their expertise and research have since led many researchers to replicate or adapt various interventions, programs, or methods of surveys or questionnaires that they have designed. One mix-methods study comprised of two studies following students as they entered seventh grade, monitoring their progress through eighth grade (Blackwell et al., 2007). These identical studies focused on the same intervention, but the second measured a smaller sample size from a highly diverse public school in New York City (Blackwell et al., 2007). Students completed pre-intervention questionnaires assessing their theory of intelligence, goals, beliefs about effort, and helpless versus mastery-oriented responses to failure. Following the questionnaire, students participated in one 25-minute lesson for eight weeks that focused on the brain development and how using it properly can help alter one's study skills (Blackwell et al., 2007). After looking at participant's quantitative data and academic grades both studies found that math achievement growth patterns differ based on one's theory of intelligence. Within the smaller, second

study, 27% of students in the experimental group showed positive growth while only 9% experienced growth in the control group (Blackwell et al., 2007).

In another mixed-methods study, Bedford (2017) used a Mindset Assessment Profile (MAP) tool, developed by Dweck and Blackwell, to determine the mindset type of two classes of students, 14 to 15 years of age. Class A comprised of 26 students, typically achieving mid to bottom level (B-D) grades in the same science class while Class B included students labeled Gifted and Talented or those that typically achieved high-mid level (A-C) grades across a variety of science classes (Bedford, 2017). The intervention consisted of three workshops: lessons on self-efficacy, task value, and self-regulation. Bedford's (2017) self-efficacy workshops focused on how new learning creates new connections between brain cells, as new connections are used, they become stronger, which makes it easier to remember and understand information. Prior to the intervention 58% of students in class A and 31% of students in class B had a fixed mindset (Bedford, 2017). Following the intervention, 83% of class A and 93% of class B were happy to make mistakes while learning new things. A greater number of students, 92% of class A and 100% of class B, agreed that intelligence could be grown and developed (Bedford, 2017).

Donohoe, Toppling, and Hannah (2012) and Schmidt et al. (2017) both conducted research studies, using the online Brainology intervention developed by Dweck and Blackwell. Brainology comprised of four lessons focused on the basic structure of the brain, brain behaviors, building and growing the brain, and brain booster activities, while after each lesson students were asked to reflect on their learning (Donohoe et al., 2012). Schmidt et al. (2017) conducted a six-week long quantitative study, measuring the change in seventh and ninth grade students' perceived control, skill, learning and interest relative to a comparison condition in which students were asked to write about science content. After they completed the intervention

students reflected in journals about their learning. A comparison group of 357 students were assigned an in-class weekly writing task about what they learned during science that day. A short survey was given at the end of day as well, ask students about how they felt about their learning.

Schmidt et al. (2017) praised the later mentioned success of the Brainology intervention since it offers mindset interventions that require relatively small amounts of time each week. Donohoe et al.'s (2012) similar mixed methods study focused on 33 secondary school students, 13 and 14 years old, in Scotland. Quantitative data from the online intervention were analyzed and used to design a qualitative phase, containing a semi-structured focus group for leading questions. Results from both methods of data led Donohoe et al. (2012) to conclude that the impact of Brainology was only temporarily effective, as it did not have a lasting impact of the mindsets of participants, resulting in most returning to their prior mindset within months of participating in the intervention.

Another quantitative study, using the research by Blackwell and her colleagues (2007), sought to discover if an eight-week intervention could be condensed into a one-shot growth mindset intervention and still yield similar effects on ninth graders (DeBacker et al., 2018). Research, later to be discussed, found that decreasing the length of an intervention can still yield positive changes in one's mindset.

Yeager et al. (2016) and Burnette, Russell, Hoyt, Orvidas, and Widman (2017) both used prior research on growth mindset to create and develop their own interventions that were geared toward a specific group of individuals. Yeager et al. (2016) sought to use design thinking to recreate existing growth mindset interventions to improve the outcomes of students with similar lifestyle transitions. Yeager et al. (2016) conducted two identical quantitative case studies to more than total of 10,000 ninth graders across the United States and Canada. The mindset intervention consisted of two

one-period online sessions during the students' regularly scheduled classes. Content of these interventions encouraged participants to replace thoughts about between-person comparisons like 'that person is smarter than me' with within-person comparisons such as 'I can become even smarter tomorrow than I am today' (Yeager et al., 2016). The study then surveyed students four weeks apart using a variety of measures such as questionnaires, challenging math worksheets, hypothetical scenarios, performance avoidance goals, and prior student achievement to rate their thinking and track their overall growth. The second study was identical to the first and given to a more diverse and smaller sized 3,676 student population than the first study. Results of the study proved that educators and researchers can recreate and design interventions to fit the student population within individual school systems.

Burnette et al. (2017) also created a short and scalable online growth mindset intervention called Project Growing Minds that lasted 45 minutes and focused on various abilities that were relevant to adolescent girls and their mindsets. Burnette et al. (2017) conducted a quantitative study to determine if the intervention would promote higher academic outcomes on 222 tenth grade girls from low-income rural high schools in Southeastern United States. The four-part intervention was presented in one session and focused on research related to growth mindset, a message of changing your intelligence, a role model who delivered tips for success, and finally an exercise to encourage participants to adopt a growth mindset. The control group of girls viewed an online based intervention developed to cultivate communication and decision-making skills among adolescent girls (Burnette et al., 2017). A questionnaire regarding mindset beliefs was given two weeks prior to the use of the interventions, immediately following the interventions, and again four months afterward to measure and analyze outcomes over time.

Initial results from the pre-test scores did not show any significant differences among groups, but by the end of the interventions the girls with the growth mindset intervention

experienced higher growth mindsets, resulting in an increase of 12.02% compared to the 2.53% of girls in the control group (Burnette et al., 2017). This short-term intervention immediately led to stronger growth mindsets among girls and results continued to prove true four months later.

### **Academic Impacts of Fixed and Growth Mindsets**

There are many academic impacts of mental mindsets. Students with a growth mindset believe that intelligence is malleable, ever-changing, or incremental as they discover new information and experiences while a person with a fixed mindset believes that their intelligence is unchanging, fixed, or an entity (Rau, 2016). DeBacker et al. (2018) found that learners who believe their intelligence is fixed were prone to focus on demonstrating their adequacy, or hiding their inadequacy, when engaged in academic tasks with other students. The growth mindset counteracts the fixed mindset. A growth mindset aims to show how the brain grows and how one's intelligence can be developed over time (Yeager et al., 2016). It is believed that students with a growth mindset have a better chance to succeed when challenges arise because of the mental mindset they have established.

Understanding the connections between mental mindsets and their effect on academic growth and student experiences can reveal a multitude of potential ways educators can meet the needs of their students and close the academic gap in achievement within their schools.

Snipes et al. (2017) examined the academic mindsets and behaviors of a large sample of students and teachers within grades 4-12 throughout a diverse school district in Nevada. The quantitative study used administrative records and survey data from self-reports of 103,066 students and 5,721 teachers. Results revealed that 76% percent of students indicated growth mindset beliefs, but 40% percent of students reported that they participated in performance avoidance throughout the school year. Snipes et al. (2017) found that schools with higher levels of diversity or students who were economically disadvantaged were less likely to show beliefs of

growth mindset and more likely to display behaviors of performance avoidance than their higher achieving, non-English learner, and White counterparts. The study showed that there is a clear connection between teachers and peers generating, supporting, and reinforcing the attitudes and beliefs of their students, therefore creating opportunities for improved academic outcomes.

Snipes et al. (2017) suggested that academic behaviors are the key component that drives one's academic mindsets and ultimately affect academic outcomes. If academic behaviors such as performance avoidance, self-efficacy, and perseverance go without change than changes in academic mindsets, leading to improved academic outcomes, will become more difficult to achieve.

Martin et al. (2019) sought to find a perspective that spans across multiple predictors of student growth and growth mindset. This quantitative study contained four separate studies that analyzed data from thousands of sixth through twelfth graders, ages 11-19-years-old, from major cities across the United States of America, Canada, the United Kingdom, and Australia. The first study used surveys to gather data about the connection between a student's interpersonal relationships with teachers, peers, and parents and their overall engagement at school. Study two focused on the academic effects that growth mindset had on students within academically at-risk groups, such as attention-deficit/hyperactivity disorder (ADHD). Martin et al.'s (2019) third study focused on the correlation between growth goals and growth mindset over a span of two years while study three examined a student's growth orientation to engagement and academic achievement. Martin et al.'s (2019) studies found that quality relationships significantly impacted growth goals, growth mindset goals had positive affect on both students with ADHD and non-ADHD students, mindsets can successfully predict student achievement across time, and

a student's growth orientation successfully predicted and influenced their engagement and achievement.

When looking at achievement trajectories, Schmidt et al. (2017) and Yeager et al. (2016) found that most students demonstrated significant increases in academic content scores over the course of their studies. Schmidt et al. (2017) found that the seventh graders already had a slightly higher level of perceived learning and interest than ninth graders so they had a slight decline, more accurately described as a ceiling effect or regression toward the mean. Blackwell et al. (2007) found that the intervention's impact on academic trajectories for the experimental group was only marginally significant, likely because of the small sample size, and suggested that the study be replicated with a larger sample. DeBacker et al. (2018) found that decreasing interventions from eight sessions to just one created weaker, but similar impacts on student mindsets and academic scores. Research confirmed that students who promoted growth mindset held more positive beliefs about effort, challenged themselves, and participated in more effort-based activities than ability-based, resulting in increased performance and potentially higher academic achievement levels (Blackwell et al., 2007; DeBacker et al., 2018; Schmidt et al., 2017; Yeager et al., 2016).

***Motivation and Self-Efficacy.*** Environmental factors, parental expectations, and cultural influences and barriers are suggested to likely undermine a student's motivation to learn and directly contribute to the academic achievement gap in schools (Burnette et al., 2017). Snipes et al. (2017) suggests that school norms may also add to the overall beliefs of a student's academic ability and the value they place on effort, ultimately shaping their mindsets, behaviors, and overall academic outcomes. The study found that schools that valued individual feedback, high-quality work, and held a "no excuses" culture were more likely to see higher levels of growth mindset and academic achievement amongst their student population.

Bedford (2017) found that the motivational strategies that students lack the most were the value of a task, self-efficacy and self-regulation. Bedford's (2017) results agreed with past research that suggests students are more motivated when given autonomy over their learning. When students only complete "easy" tasks they feel successful due to the little effort of work they needed to put in, but if students hold a fixed mindset that feeling of success may soon vanish when they begin to attempt more challenging tasks. Students demonstrated a greater resilience, understanding the need for effort, reducing their fear of failure, and enhancing their self-belief as a consequence (Bedford, 2017).

DeBacker et al. (2018) quantitative study found that one-shot growth mindset interventions can be as impactful as longer interventions and have a significant impact on student's implicit beliefs and motivation. Learners who strongly believed that intelligence is a malleable human quality also wanted to improve their skills and learn as much as possible at school. These same students were unconcerned with their capableness when compared to their classmates. Learners who believed that their intelligence is a fixed entity reported that they worried about looking smarter than their peers and would often try to avoid appearing less capable of completing a task (DeBacker et al., 2018). Yeager et al.'s (2016) intervention also successfully altered the mindsets of learners and reduced the percentage of students with a fixed mindset. It was reported that the percentage of students who stated they would choose an easier math problem to solve, if given the choice dropped from 54% to 45% after the completion of the intervention. As students begin to feel higher levels of confidence, they begin to shift their mentality and are more willing to accept more challenging approaches to learning that can propel them on a path to higher levels of academic success.

***Perseverance.*** Blackwell et al. (2007) found that students with a growth mindset could develop learning goals more strongly and believed that working hard led to higher levels of achievement. Similarly, while studying ninth grade academic achievement, Yeager et al. (2016) found results proving that students with more grit and perseverance performed higher academically on end of trimester assessments and earned higher grade point averages. Blackwell et al. (2007) suggest that students that developed values of perseverance and growth mindset were less likely to attribute failure to lack of ability and were more likely invest time into the strategies learned throughout the intervention than did the students who held a fixed mindset.

### **Specific Growth Mindset Language**

Due to their large amount of interactions with children, educators and family members are two groups of people that have lasting impacts on the brain growth and mindsets of the children they interact with daily. Recent studies have shown that specific parent and teacher language can have an effect on a students' educational motivation and ultimately lead them toward a developmental progression of growth mindset (Rau, 2016; Truax, 2017). Another study by DeBacker et al. (2018) showed that parents and teachers have a very influential role, either directly or indirectly, on student's mindset about academic ability. When educators and family members begin to offer specific feedback or positive language, enhanced with a beliefs of growth mindset, a child's mind can begin to form new ways of thinking or believing in one's self.

***Teachers.*** Whether educators know it or not, public recognition of outstanding achievement, honor rolls, displaying top student work, and providing specialized courses and enrichment opportunities to only selected students are all examples of ways that educators promote a fixed mindset in academics (DeBacker et al., 2018). There is a growing need for educators to become aware of their language and actions they take around students, doing their best to promote a mindset of growth amongst students.

The following studies focused on the effects of teacher feedback or growth mindset related language used within the classroom.

In a mixed-methods and quasi-experimental study addressing the impact of teacher language, Truax (2017) focused on the comparison of feedback during second and third grade writing conferences. Students in the experimental group were given additional feedback focused on growth mindset beliefs while other students were solely given traditional feedback. Prior to conducting the study, teachers in the experimental group were given short professional development on the topic of growth mindset feedback. Truax's (2017) results revealed that both grade levels' experimental groups outscored the control groups in overall increase of mean points. Although there was no significant statistical change in quantitative data, Truax's (2017) qualitative data proved that a student's motivation can be affected by teacher language. When teachers give positive and objective feedback, enhanced by the beliefs of growth mindset, it positively impacted a student's motivation to be successful, whereas correcting, criticizing, and drawing attention to a student's mistakes resulted in a lack a motivation (Truax, 2017). DeBacker et al. (2018) supported this finding by suggesting that even the offering of limited opportunities for feedback can send implicit messages about growth mindset, thus the importance of objective and constructive feedback from teachers.

In a similar qualitative study, Rau (2016) explored what influences teacher language had on the mindsets of three different fourth grade, English language learners. In the three-month study, she continually provided specific teacher feedback and questions that incorporated process-oriented language instead of product-oriented language. Rau (2016) found that teacher language not only affects student learning and achievement, but it reaches further to affect the mindsets that students are developing. To effectively implement teacher language, it was suggested that one's

language could not be focused on during just one content area or type of student interaction, but instead teacher language needed to be at the forefront of one's mind at all times. Results from Rau's (2016) study showed that mindsets shifted as a student's focus moved from speed to content to process. For instance, the students' mindsets shifted from 'I have to complete this task quickly' to 'I want to get better at spelling' to 'I worked hard and challenged myself.' These studies show the importance of why educators need to be cognizant of the questions and feedback they are, or are not, asking and providing if they desire to facilitate an environment that promotes growth minded learning (DeBacker et al., 2018; Rau, 2016; Truax, 2017).

***Parents, Family, and Friends.*** Research continued to show the implications and importance of parents, family, and friends when one is developing their own mindset and beliefs. DeBacker et al. (2018) suggests that when a parent attributes an outcome to intelligence, rather than strategy use or persistence, it can promote a fixed mindset, even if the achievement outcome is positive. Whether trying or not, the words and actions of one's parents, family, and friends may hold strong influential consequences towards one's developing beliefs. Fraser (2017) suggests that parents be included in the implementation and approach to growth mindset in schools so they may gain a better awareness into their child's brain development and growth. Holding informational sessions about growth mindset and engaging parents and family in a dialogue around their student's beliefs and brain development may help to create higher levels of success with interventions and approaches to growth mindset in school.

Research also suggested that growth mindset approaches are often not transferred outside of the classroom (Fraser, 2017). Places such as the playground, cafeteria, or school bus may offer interactions with friends that cause students to still hold beliefs of fixed mindsets in relation to applying social skills with others. Martin et al. (2019) found that increasing the positive relationships with teachers, parents, and peers significantly impacted a student's growth goals and students were than more likely to report

higher academic engagement. Specific growth mindset language combined with multiple positive interpersonal relationships provide students with ample opportunities to further their educational experience and continue toward a trajectory of academic success.

### **Lack of Professional Development**

As advances in research and the knowledge of mindsets increase, the demand placed on teachers to become the foundation of educational success increases also. In light of the aforementioned research, to better prepare educators for today's classroom, educators must understand the connection between a student's mental mindsets and their academic performance. They must become experts not only in their field of education, but also grow in their understanding of child psychology, developmental communication, and academic practices and approaches that successfully bring an increase in academic results. The following studies provide insight into the need for professional development among educators (Fraser, 2017; Hanson et al., 2016a; Hanson et al., 2016b; Seaton, 2018).

In a quantitative study, Hanson, Ruff, and Bangert (2016b) focused on the relationship between educational level of a school to the growth mindset within the building. After surveying educators and administrators from 30 schools across a midwestern state about their school's growth mindset culture, research found that elementary school mindset mean scores were significantly higher than those for middle school and high school. Results indicated that secondary-level teachers usually have lowered expectations, performance-based instructional strategies, and fixed mindsets toward students' abilities to learn and grow (Hanson et al., 2016b).

Due to the changes that students experience during the maturation of their teenage years, such as an increase in social awareness and self-consciousness, students need an increase in teacher supportive behaviors (Hanson et al., 2016b). Research gathered by Hanson et al. (2016b)

suggested that secondary level teachers lack the training, preparation, and growth mindset strategies to meet the psychosocial needs of their students. In a similar quantitative study, focused on organizational variables and their impacts on growth mindset in multicultural education, Hanson, Bangert, and Ruff (2016a) found that a principal's openness to change explained the most variability on a school's culture of growth mindset. Administrators should begin to encourage educators to collaborate and build an understanding of growth mindset through offering various opportunities for staff professional development. Hanson et al. (2016a) suggested, "As school environments become increasingly multicultural, teachers must have an increasing responsibility to develop and demonstrate culturally caring educational behaviors" (p. 234). Research suggests growth mindset culture interventions that include different opportunities such as staff decision-making and change processes, developmental strategies for teaching psychosocial skills during core curricular lessons and providing further collaborative experiences with staff (Hanson et al., 2016a).

Fraser's (2017) study strengthened the need for professional development found within studies by Hanson et al. (2016a) and Hanson et al. (2016b). Research aimed to explore the different approaches used to apply and implement growth mindset teaching and learning throughout a primary school in Scotland. Fraser (2017) conducted interviews, held small focus groups, and completed six observations of classroom teaching and learning to gather and analyze data from six teachers and 28 students, grades 2-7, that participated in the qualitative study. Themes and results arose to suggest that initial planning, collaboration, and implementation of growth mindset approaches were imperative to the success of teaching and learning. Other themes suggested that classroom culture and teaching, parent involvement, and student engagement in the implementation was directly related to the success of embedding growth

mindset. Successfully promoting teacher language, mistake making, and the knowledge of brain growth, all assisted educators in creating a successful culture to implement mindset strategies within a classroom. Fraser (2017) found that the data showed significant amount of staff development that was undertaken prior to beginning the implementation of any strategies. Proper staff development is needed in order to successfully implement practices of growth mindset within a classroom or school.

In a mixed-methods study designed to evaluate the impact of a mindset intervention on teacher mindsets, Seaton (2018) further proved the theory of growth mindsets when she found that teachers subsequently change their teaching practices based of their mindset beliefs. These practices can correlate directly to the beliefs and academic success of students. Using questionnaires as a precursor and follow-up measure to a six-session mindset intervention similarly used by Donohoe et al. (2012) and Schmidt et al. (2017), Seaton (2018) analyzed the results of 17 teachers from six schools in the United Kingdom. The six training sessions engaged and empowered participants to think about the functions and growth of the brain while incorporating a problem-based learning framework. Seaton (2018) found that participant's quantitative scores increased significantly by a mean score of 3.88. The follow-up questionnaire conducted three months after the intervention indicated that intervention was useful as participants were contributing the learned beliefs into their current practices. Results showed evidence of critical reflection towards one's mindset, leading to change in teacher practices, adopting those practices that are the most effective for student growth.

Research suggests that mindset training and professional development will increase the awareness of educators while considering their own practices. Mindset training provides opportunities for reflection and change to occur based on knowledge gained. Allowing educators

to dialogue and integrate mindset concepts into their daily lessons and language will directly benefit the overall academic success of students, motivating them to persevere through challenges and believe that their brain grows through mistakes.

### **Study Limitations**

Although many studies listed many notable strengths or significant findings, researchers listed many limitations that could be addressed in within future studies. For instance, different factors of size and length were suggested. Multiple studies mentioned limitations of using a small number of participants (DeBacker et al., 2018; Donohoe et al., 2012; Seaton, 2018; Truax, 2018). Other studies drew participants from a single school district or same geographical location and cited a limitation of possibly having a generalized result (Blackwell et al., 2007; Schmidt et al., 2017; Snipes et al., 2017). Yeager et al. (2016) referenced the limitation of collecting grades over a shorter period of time instead of starting at the beginning of the year and comparing results to end of year results. Rau (2016) agreed that the length of the study was short and could be lengthened in the future.

Furthermore, many studies suggested that interventions or study methods were prone to bias due to a variety of leading indicators. Martin et al. (2019) and Snipes et al. (2017) both suggested that their self-reported measures may have been a limitation and prone to bias as teachers or students may have provided answers thought to be socially acceptable. Burnette et al. (2017) also mentioned a limitation of bias and suggested that students may have talked to one another about what they had learned about growth mindset in the interventions.

Another limitation that was considered was that teacher characteristics may have influenced the results of the study as student-teacher relationships may have caused students to become more or less interested or motivated with the intervention material (Truax, 2018).

**Summary**

The need for various growth mindset interventions within K-12 classrooms should be acknowledged by administrators and educators looking to best lead in education today. The importance of having a growth mindset and the use of language enhanced with growth mindset strategies proves to have an effect on a student's motivation, self-efficacy, and perseverance within their K-12 educational experience. Throughout the literature review, not all studies showed an increase in academic achievement levels. However, all studies agreed that growth mindset has a positive impact on a student's overall educational experience. Several studies suggested the need for ongoing research on the topic of growth mindset and its impact of academic achievement. Further research will continue to provide educators with insight into the mindsets of the everchanging student population and how they best proceed through their academic career.

Chapter three reviews the topic of growth mindset and its impact on K-12 student motivation, self-efficacy, and grit within their educational experience. It will offer a paraphrased summary of the findings of the research studies that were examined in the literature review. Findings will also clearly be connected to the research question and program essential question that were asked throughout this paper.

**Chapter 3: Summary**

The reviewed literature in chapter two offered different perspectives of growth mindset interventions and strategies to implement mindset language into the classroom. The studies included helped to explain the importance of growth mindset strategies and interventions in classrooms as an attempt to increase the educational experience and academic outcomes of students. Research suggested that limitations were present and differing results were found

across studies, but all research agreed that having a growth mindset has positive effects on student performance and overall success within a classroom setting. Chapter three will review the problem proposed at the beginning of this paper, reiterate the importance of why this topic should be studied, and provide a brief summary of the themes that emerged from various studies throughout the literature review.

### **Review of the Proposed Problem**

As educators continue to search for effective classroom practices and strategies that generate higher academic results amongst their student population, a student's mindset on learning can be called into question. One's mental mindset often affects daily judgement, outlook on life, and their decision-making abilities. The problem that was researched throughout this paper centered around the question of whether having a growth mindset affects a student's motivation, self-efficacy, and grit within their K-12 educational experience? The topic was chosen to investigate strategies to increase and improve the psychological makeup of a student instead of focusing on practices that solely boost understanding of particular content areas in school. Although research on student mindsets has gained interest over recent years, researchers such as Blackwell et al. (2007) have studied the issue for decades. Educational leaders have found this research important to their understanding and essential in creating atmospheres where successful student learning experiences and outcomes thrive. In light of what is known about how children learn and educational policy and practice, understanding the connection between a student's mental mindsets and their academic performance will better prepare educators for today's classrooms.

**Importance of the Topic**

A gained understanding of student mindsets is needed before expecting all students to make proper academic growth throughout the school year. Due to a lack of student beliefs such as a lack of motivation, perseverance, and mental mindsets, students are achieving lower levels of academic success than others. These multifaceted student beliefs were noted within all research articles studied in this paper. Research has shown that fixed mindset beliefs cause students to become more at risk of slower to no academic growth when compared to students with growth mindset beliefs (Dweck, 2014). Educational leaders and administrators looking to see a shift in student success should seek to increase their knowledge of mental mindset strategies and interventions in schools.

**Summary of the Main Points of the Literature Review**

The current research within the literature review presented various themes recurring across multiple studies that answered the research question. These themes included differing mindset interventions conducted during the research studies, academic impacts of fixed and growth mindsets, specific growth mindset language, and the need for professional development surrounding mental mindsets.

The research indicated differing levels of sample sizes, age groups, diversity, and study length, yet all studies found that mindset interventions were successful at increasing growth mindset beliefs among K-12 students. Blackwell et al. (2007) proved that mindset interventions have marginally significant impacts on academic trajectories of students. Bedford (2017) found that interventions successfully helped to alter the mindsets of students. Donohoe et al. (2012) and Schmidt et al. (2017) used an online Brainology intervention. Yeager et al. (2016) and Burnette et al. (2017) redesigned previous research-based interventions to successfully meet the needs of

their specific population of students and praised the research as it immediately led to stronger growth mindsets and continued to prove true during future interviews.

Some studies proved positive towards changing mindsets but did not produce lasting effects. DeBacker et al. (2018) found that decreasing the length of an intervention created weaker results but yielded similar positive impacts on student mindsets and academic scores. Donohoe et al. (2012) concluded that the impact of intervention was only temporarily effective, resulting in many students returning to the previous mindsets and beliefs within a few months of participating. These results suggested that mindset interventions and strategies were successful but should extend beyond the intervention and that mindset beliefs should become a continuous practice for educators looking to see prolonged academic success and growth (DeBacker et al., 2018; Donohoe et al., 2012).

Another theme was that there were specific academic impacts of students exhibiting beliefs of a fixed or growth mindsets. DeBacker et al., (2018) reported that students with a fixed mindset were more worried about what their peers would think of them, causing them to avoid completing tasks that would make them appear less capable. Yeager et al. (2016) found that a growth mindset counteracts a fixed mindset and aims to show students how the brain grows and how one's intelligence can be developed over a period of time.

A students' motivation, self-efficacy, and perseverance were directly and positively impacted due to this change in beliefs and mindset (Bedford, 2017; Blackwell et al., 2007; DeBacker et al., 2018; Martin et al., 2019; Schmidt et al., 2017; Snipes et al., 2017; Yeager et al., 2016). Blackwell et al. (2007) suggested that students developed values of perseverance and growth mindset and were less likely to attribute their failure to a lack of ability. The interventions caused students to become more motivated to challenge themselves and participate in more effort-based

activities, resulting in increased performance and potentially higher levels of academic achievement (Blackwell et al., 2007; DeBacker et al., 2018; Schmidt et al., 2017; Yeager et al., 2016).

Specific growth mindset language was another theme found across multiple research studies. Studies found that specific parent and teacher language can play a very influential role in shaping one's mindset about ability, ultimately impacting the educational motivation and success of students (DeBacker et al., 2018; Rau, 2016; Truax, 2017). Offering specific, constructive feedback is important when developing one's own beliefs (DeBacker et al., 2018). Rau (2016) suggests that specific growth mindset infused language needs to be at the forefront of one's mind at all times when teaching. Increasing these positive relationships and growth minded experiences with teachers, parents, and peers significantly impacts a student's growth goals and helps shift their beliefs (Martin et al., 2019).

The last theme presented in the literature was the need for professional development surrounding mental mindsets in school. Seaton (2018) found that educators often change their teaching practices based on their own mindset beliefs. In similar studies, Hanson et al. (2016a) and Hanson et al. (2016b), found that educators in secondary levels held higher percentages of fixed mindsets beliefs, leading to lowered expectations, performance-based instructional strategies, and fixed mindset beliefs toward students' abilities to learn and grow. These studies suggest a lack of training, preparation, and growth mindset strategies among secondary level educators. Fraser (2017) found that schools with proper and prior staff development of growth mindset found far greater levels of academic success and students' beliefs in growth mindset. In order to successfully implement practices of growth mindset within a classroom or school administrators must begin to conduct proper staff development on the topic.

As educators continue to focus on new ways to approach learning and teaching practices, providing growth mindset instruction and interventions should be considered. Although research did not prove to close the academic achievement gap, it showed that the mentioned instructional practices help to change student mindsets and beliefs and, in some cases, the overall productivity and academic success of students. The following chapter will address the insights gained and applications from the research and offer recommendations for potential future studies to help further the understanding of this topic.

#### **Chapter 4: Discussion and Application**

Research has proven that having a growth mindset positively affects a student's overall academic performance and experience in school. The previous chapters introduced the issue of growth mindset, explored various research studies to gain understanding, and then summarized the main points emphasized in the research to reiterate the importance of the topic. This chapter will discuss insights gained from the research, classroom applications to improve teaching practices and student learning experiences, and suggestions for future research.

##### **Insights Gained from the Research**

The research process provided several insights into answering the question of whether a growth mindset has effects on a student's overall educational experience. However, several limitations were mentioned throughout the research, leaving research questions for further exploration. Over the years, educators have made significant attempts to refine and improve the educational outcomes of students and to narrow the academic achievement gap in schools. Research and studies within this paper support the premise that a students' mindset has significant impacts on a student's motivation, self-efficacy, perseverance and growth over time, potentially assisting schools in narrowing the academic achievement gap. However, the

educational issue of a fixed mindset still continues to be a concern today in schools as growth mindset interventions and training programs have not shown sufficient evidence in providing long lasting results.

Varying percentages of diversity and sample sizes of student population were used within the studies and interventions conducted throughout the research, however, studies continuously provided positive impacts on student learning experiences. This suggests that any student has the potential to be successful if given the right environment to thrive. This is essential for educators to hear as research also showed that teachers, parents, and peers have a significant impact on the beliefs that a child may hold about themselves. In order for a mindset shift to result in students, educators must first value those same beliefs and see the potential that is waiting to be unlocked in each and every student.

Prior to exploring research studies on mindsets for the literature review the researcher practiced and implemented strategies that promote growth mindset beliefs and abilities within the classroom. Despite the researcher's current practices, a deeper appreciation and greater understanding for those strategies was gained.

### **Application**

Districts and educators would benefit greatly from implementing more curriculum and activities beyond the initial interventions and trainings that promote growth mindsets in school. Quality student learning experiences and classroom instruction become easier to accomplish when educators begin to institute ways for future thinkers and dreamers to emerge in their classroom. Quality learning experiences could include activities that offer real-world applications, giving students real-world problems and allowing them to investigate, create hypotheses, and learn from their mistakes to perfect and improve their solutions. When students

are not afraid to make mistakes and view failure as a way to gain knowledge and grow, they gain personal attributes that create a better chance for lifelong success in and out of school.

The more opportunities offered to students to persevere and build stamina through struggles, the better chances they will have to succeed in the future. Offering more Science, Technology, Engineering, and Math (STEM) activities and creating makers or design spaces within schools are great ways to allow students the chance to stretch their thinking and become successful with failure. All students deserve this opportunity in order to gain a greater confidence, work toward persistence with failure, build grit, and to set forth a path to success in a growth-minded world.

Additionally, further professional development is needed for educators to offer proper feedback that promotes growth minded thinking and offers students constructive next steps for growth. Staff workshops are suggested numerous times in the literature as a way to promote and provide opportunities for reflection and allow educators to shift their own mindset beliefs. Collaborating and sharing strategies and current best practices are essential components that most educators already currently practice in order to grow and learn from one another, but studies suggest that there is a growing need for added opportunities. Studies suggest that this same exercise can be done with a focus on integrating specific language that promotes growth minded thinking and feedback strategies. Trainings like these will increase awareness of educators and allow for greater consideration and reflection on one's own practices.

### **Recommendation for Future Research**

Additional studies on the topic of growth mindset are recommended because of the varying results and a need for further mindset practices beyond the initial interventions. Although this topic has been popular for decades, researchers are still trying to perfect best

teaching and learning practices that promote beliefs of growth mindset. Suggestions for three further studies are made in order to better understand the results and find further evidence and best practices that promote these mindset beliefs.

The first proposed study would concentrate on replicating a multitude of earlier studies that were conducted on small sample sizes within similar districts or geographical locations. This study would investigate whether the findings will show similar results using increased sample sizes from various school districts and geographical locations around the world. The limitation of generalized results due to similar location or school district would no longer be an issue here. Research would include both quantitative and qualitative data in order provide identical methods as prior studies.

Another study for further research could set out to answer the question of whether growth mindset has a direct impact on academic outcomes and if so, do those outcomes help to close the academic achievement gap in schools? Studies within the literature review offered insight into increased academic outcomes due to motivation, self-efficacy, perseverance, and mindset beliefs but provided no clear evidence on whether these beliefs directly helped to close the achievement gap.

A final study for future research would look to provide educators with further practices and teaching strategies that promote growth mindset beliefs. The studies conducted in this literature review mainly focused on growth mindset interventions, but only a few suggested other ways to further those practices beyond the intervention. Several studies mentioned a rebound in beliefs after a couple of months so a study focused on successful practices to implement after initial interventions would be helpful in continuing those mindset beliefs among students.

Being intentional about implementing a growth mindset in schools must happen in order to break through the issues caused by a fixed mindset. These issues continue to be disregarded and overlooked because of other academic needs within schools. Arming educators with the resources, knowledge, and training they need to create a growth-minded culture would benefit a schools' academic growth immensely. Implementing a growth mindset in schools will not only allow students to be successful in their future, but it also enables them to become lifelong learners. Angela Duckworth (2013) suggests that developing growth mindset beliefs, motivational strategies, self-efficacy, and perseverance or grit is like living life like it is a marathon, not a sprint. As future leaders and decision-makers, students need to establish this mentality early on in life.

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