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# Impact of mindset on literacy: what happens to literacy skills when a growth mindset is taught to first graders

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**IMPACT OF MINDSET ON LITERACY: WHAT HAPPENS TO LITERACY  
SKILLS WHEN A GROWTH MINDSET IS TAUGHT TO FIRST GRADERS**

by

Katherine Saia

A Thesis

Submitted to the  
Department of Language, Literacy, and Sociocultural Education

College of Education

In partial fulfillment of the requirement

For the degree of

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at

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Thesis Chair: Dr. Susan Browne

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## **Dedications**

I would like to dedicate this thesis to my family.

My brother, John, was my biggest cheerleader all my life! Sadly, John was not able to see me through to the end of this work, but I know he has watched over me and is bragging in heaven.

My husband, Dan, has given me the strength and support I needed to accomplish this daunting task. Without his reassurance, I would not have made it to the end.

Katie and Kelsey, my amazing daughters provided encouragement and inspiration. Knowing they were watching forced me to always carry on.

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I will forever be grateful to the support I received from the moment I entered my new school. I could not have accomplished all that I have without the love and support of the most amazing first grade team. You ladies rock! I am also thankful to my principal that gave me the opportunity to work at such a wonderful school. This research would not have been possible without my first graders. I am thankful to have such a great class of students as well as to be supported by their fabulous parents. Thank you!

I am also appreciative to the wonderful friends that I have made through this MA program. Knowing that I always had someone to turn to when I was struggling helped immensely. We have surpassed colleagues to truly become friends. Thank you!

## **Abstract**

Katherine Saia

IMPACT OF MINDSET ON LITERACY: WHAT HAPPENS TO LITERACY SKILLS  
WHEN A GROWTH MINDSET IS TAUGHT TO FIRST GRADERS

2016-2017

Dr. Susan Browne

Master of Arts in Reading Education

The purpose of this study is to determine the type of mindsets held by first graders and to determine what happens when they are exposed to ways to have a growth mindset. The goal is to see what happens when children use a growth mindset when asked to engage in challenging literacy activities. First graders were first evaluated using a mindset survey and reading levels were determined. Logic puzzles were given and timed to determine if work effort matched that of the mindset survey. Students showed a change in mindset and growth in reading abilities. Implications for future research are discussed.

## Table of Contents

Abstract .....	v
List of Tables .....	viii
Chapter One: Introduction .....	1
Purpose Statement.....	2
Statement of Research Problem and Question .....	4
Story of the Question .....	5
Organization of the Thesis .....	7
Chapter Two: Review of the Literature .....	8
Implicit Theories Impact Literacy .....	9
Engagement Theory .....	13
Self-Efficacy .....	14
Conclusion .....	17
Chapter Three: Context .....	18
Community .....	18
School .....	18
Classroom .....	19
Research Design/Methodology .....	22
Teacher Research .....	22
Procedure of Study .....	23
Data Sources .....	24
Chapter Four: Data Analysis .....	27
Introduction .....	27

## Table of Contents (Continued)

Mindset Profiles and Work Ethic .....	28
Power of YET .....	32
Mindset Impacts Reading .....	34
Chapter Five: Conclusions, Limitations, Implications .....	38
Conclusions .....	38
Limitations .....	39
Implications .....	40
References .....	43



## List of Tables

Table	Page
Table 1. Mindset Assessment Profile Scores .....	29
Table 2. Logic Assessment: Time Spent Deciphering Codes.....	31
Table 3. Fountas and Pinnell Guided Reading Levels.....	36

## **Chapter One**

### **Introduction**

*“People don't care how much you know until they know how much you care.”*

*Theodore Roosevelt*

After ten years of teaching in a small private school at the second-grade level I was given the opportunity to bring my experience to a larger scale by teaching first grade in a local public school. This change brought a myriad of emotions as I would be leaving behind the only place I had ever taught; I would be leaving a place deeply rooted in Quaker values where I was free to teach what I believed in. I was now starting a new chapter of my teaching career in which there was a mandated, rigorous curriculum, larger, more diverse student body, and high expectations for student outcomes. One moment I felt excitement as I decorated my new room, the next, overcome with worry as to whether I was ready for this challenge.

Two weeks into the school year things were going well, I had a beautifully organized, structured first grade classroom filled with 18 wonderful boys and girls eager to learn. Their energy and my enthusiasm for teaching allowed each day to be jam-packed with hands-on learning. I was surrounded by teachers with a passion for helping every student to learn. Beyond my “team” of fellow first grade teachers I also had found support from administrators, reading specialist, and support staff. It would seem as though I had landed in an educational utopia! My fears had not come to fruition, my students were great, their parents supportive, everything had fallen into place, and most important, I realized I was good enough. As is always the case the beginning of the year

is a time spent getting to know your students and establishing daily routines. Assessments are given almost daily to plan for instruction.

It was amidst one of those assessments that my research question was born. Hearing and seeing doubt in one of my first graders as we walked down the hall hit me at my core. I knew in that moment that not only did I need to help these children learn to read I also needed to teach them to believe in themselves to know that they were capable, and that if they worked hard they would have success. I needed to help each of my first graders adopt a growth mindset so that they could learn to put forth effort in all challenges.

### **Purpose Statement**

The purpose of this study is to determine what happens to the reading ability of first graders when they learn to use a growth mindset to attack new and challenging learning situations related to literacy. This study is significant as there is no current research that explains the impact of mindset on reading in the early elementary years. For children to be able to reach their maximum academic potential they must be willing to attack new challenges with a growth mindset and work with perseverance. Upon reviewing existing literature about mindsets there was a disproportionate amount of research designed to evaluate how mindset impacted mathematics. These researchers could determine that having a growth mindset was beneficial in learning mathematic skills. This led me to decide that I needed to be able to fill the void in the area of research about impacts of mindset on literacy skills.

Research conducted by Dweck and Yeager, 2012, showed that mindsets do in fact impact students' ability to learn and further that these mindsets can be changed over time. This can be described as having a growth mindset in which challenges are seen as a positive and failing is seen as an opportunity to learn and grow. Opposed to a fixed mindset in which failure is seen as a weakness and challenges create a desire to give up. This can also be described using Implicit theories as having an entity or incremental theory. Implicit theories refer to the thoughts a person has about their own ability to learn and grow. Those with the incremental theory believe their ability to grow and learn is endless while those with an entity theory feel as though intelligence is fixed and there is no point in working harder. With this in mind, I set out to first determine the mindset of each of my first graders. I then planned lessons to teach students ways to help them adopt a growth mindset in those that had shown to have a fixed mindset. In my mind, it was essential that I lead each of my first graders to adopt a growth mindset so that they could learn to work hard and see challenges as opportunities for growing their brains.

Another factor impacting the student's ability to learn is that of their own motivation. To learn more about this, I researched Guthrie's Motivation Theory. This topic becomes quite complex as it becomes hard to differentiate as do children have success with academic tasks because they are naturally good at them, or do they become good at them because they do it often? In 2011 Smith, Smith, Gilmore, and Jameson sought out to learn more about how this idea impacted fourth and seventh graders. In this research students were evaluated on their ability to read as well as their personal enjoyment related to reading. While I found this study useful, and directly related to my

research, again it was directed at students of a higher elementary level opposed to students as young as my first graders.

Closely related to the idea of mindsets is that of Self-Efficacy Theory. In 2013, Ho & Guthrie researched self efficacy in relation to reading in seventh graders. This study provided teachers with information that improves teaching practices which could lead to greater student successes. However, this research involved seventh grade students and I was unsure whether the same would hold true for my first graders.

Research exists supporting the importance of having a growth mindset, it has been made known that having a growth mindset will have a positive impact on student learning. Research reveals how mindset impacts student's ability to learn mathematical skills. Research makes the connection between mindset and reading however, there is no current research that connects mindset, reading, and young elementary students. The research that I have conducted will help educators to see the value of teaching the attributes of a growth mindset and how that mindset impacts children's ability to read. (Dweck, 2011)

### **Statement of Research Problem and Question**

The purpose of this study is to observe changes in reading abilities over time as a result of learning how to adopt a growth mindset. The specific research question being asked is how does mindset impact the reading abilities of first graders? Sub questions include, What role does motivation play in mindset? What happens when students are empowered to take ownership over their own learning? If first graders enter a classroom feeling as though they do not have the capacity to continually learn and grow they will

not take on the challenges of literacy such as learning to read longer and more complex texts. Students must have a growth mindset that allows them to recognize that perseverance and hard work can lead to academic success in all areas of literacy.

### **Story of the Question**

As I settled into my new school home the idea of my teacher research question laid heavily on my mind. Not knowing the curriculum or typical expectations of first graders in a public school made it even more difficult. The advice from my thesis advisor would run through my mind “What interests you? What are you passionate about?”

Things finally came together for me while preparing to administer a reading assessment. I was given a substitute so that I could administer the Developmental Reading Assessment in a quiet space down the hall from my room. I used the time walking down the long hall to the testing area to try to put each student at ease as well as begin a dialog about their reading life. This was the first time I had spent one on one time with my kids so I was eager to use each moment to the fullest. As Steve and I walked down the hall I began to question him as I did each child. Thus, far I had encountered children that were overly confident in their abilities and quickly shared that they “love to read books.” Responses like this had even come from some students that were only able to read two words per page. I expected Steve, one of the seemingly brighter students, to exude the same level of confidence. I was stunned when he responded “I don’t like to read “, and when questioned further stated “I don’t like to read because I am not good at it”. What was worse than the statement was the physical actions that accompanied it, Steve’s head literally dropped and his shoulders slumped as if he was trying to make

himself disappear. Here was a little boy that was showing signs of feeling defeated before he even got to the assessment. I was heart-broken at his response to my question. I had not anticipated a response like this from a first-grader. I quickly sought to share words of encouragement and tried to let him know that I believed in him.

Later that day I still was reflecting on Steve's words and actions, this is when I was reminded of a book I had previously read. Steve was showing signs of a fixed mindset! When I made this connection, I became even more worried as I connected that having a fixed mindset could in fact impact his ability to grow as a reader. I began to wonder if any of my other students could also have a fixed mindset. These wonderings led me to feel concern over this problem. Then it hit me- this was my research question. In *Living the Questions*, it is said "Teachers are surprised and delighted to realize that research can focus on problems that they are trying to solve in their own classrooms (Shagoury & Power, 2012, p. 3). With this awakening my research question was formed.

This topic was just what my advisor had suggested, "find something that you are passionate about". Mindset was a topic of great personal interest for me. Not long ago I had learning that a fixed mindset had a negative impact on one's performance and ability to learn. I too was like Steve, I approached each new task with a fixed mindset and believed I would not be good enough before I even tried. Because of this mindset, I was afraid to try new things, my negative attitude made anything that I did try much harder. Learning that I could change this mindset was life-altering for me. I knew I wanted to help my first graders learn to have a growth mindset early in their education so that they would not be hindered by a fixed mindset.

## **Organization of the Thesis**

Chapter two provides a review of the literature regarding the two different mindsets as well as how mindsets can impact learning. Motivation and self-efficacy are also reviewed and is connected to how each impacts literacy. Chapter three describes the context of the study, including details of school environment and specifics about classroom and students of focus. The methodology and plan for collecting data is also presented. Chapter four presents the data and analysis of it. Findings of the study are also discussed. Chapter five presents the conclusions of this study and implications for teaching and learning as well as suggestions for further research regarding the impacts of mindset in literacy of an elementary classroom.



## Chapter Two

### Review of the Literature

*“I’ve seen so many people with this one consuming goal of proving themselves—in the classroom, in their careers, and in their relationships. Every situation calls for a confirmation of their intelligence, personality, or character. Every situation is evaluated: Will I succeed or fail? Will I look smart or dumb? Will I be accepted or rejected? Will I feel like a winner or a loser?”*

*Carol S. Dweck, 2006*

Children go to school to learn; their teachers seek strategies to best present materials in hopes of allowing each child to reach their maximum growth potential. Learning to read is the foundation for all future learning and is absolutely an essential skill for first graders to master. Social learning perspectives provide a framework for understanding how it is that children learn to read. “Linguistics also added the perspective that the ability to read is related to social functioning, that is, that individuals learn to read as a means to accomplish personal goals related to basic life functioning” (Tracey & Morrow, 2006, p. 101). Teachers must learn best teaching practices. It is also essential to recognize that other factors, such as the psychology behind each student’s ability to learn are understood by educators. Carol Dweck of Stanford University has spent a great deal of time studying the concept of growth mindset versus fixed mindset and how these mindsets impact learning. (Yeager & Dweck, 2012) This literature review will discuss how mindsets can also be viewed through Implicit Theories which label a growth mindset as incremental and fixed mindset as entity theory. These theories will be discussed in detail explaining how research has been conducted at various levels of

development. The connection between mindsets and grit will also be discussed as attributes that impact success. Mindsets will also be explored through the theoretical framework of self-efficacy. Researchers have sought to learn more about what leads to students becoming good readers, the view of self-efficacy will be reviewed to determine a connection between that and mindset. Finally, this literature review will address the implications of engagement theory in relationship to mindsets. Through this literature, a better understanding of theories that impact a student's ability to read as well as how these theories relate to mindsets.

### **Implicit Theories Impact Literacy**

Researchers have sought out ways to understand how children learn and factors that play a role in academic growth. Current research has suggested that research beyond best teaching practices should be evaluated and a focus on students' mindset should be evaluated. Implicit Theories suggest that "individuals develop theories, implicit beliefs, and deeply held schema about human attributes to explain and understand their world" (Martin, 2014, p. 208). Implicit theory can impact a variety of personal attributes, for the purposes of this study the impact of Implicit theory on education be addressed. Implicit theories can be fixed, this is also known as entity theory which is a belief that a person has a set amount of knowledge and that their ability to grow beyond a set amount is not possible. Students with this mindset tend to quit when tasks become too challenging and have a more negative view of learning. The opposing theory is that of a growth mindset or the incremental theory. Students possessing this mindset believe that their ability to learn and grow is limitless, they view challenges with enthusiasm and believe that they can overcome adversity. This leads to a more positive view of learning. (Martin, 2014)

Students with an incremental theory have a goal to learn more, and work harder when facing challenges; while those with an entity theory have a goal to look smarter and tend to give up when faced with serious challenges. (Yeager & Dweck, 2012)

Understanding a student's mindset can help educators gain insight into their students' ability to learn. More importantly is the question regarding whether one's mindset can be changed. "Our research also shows that students' mindsets can be changed and that doing so can promote resilience" (Yeager & Dweck, 2012, p. 303). Recognizing that students having an entity theory will have less academic success while those with an incremental theory will set high goals and work hard to obtain them; educators should do whatever they can to help all students adopt an incremental theory. "If implicit theories can change, then this brings into consideration factors that might lead to such shifts" (Martin, 2014, p. 210).

Research was conducted with college students to determine if in fact their theory of intelligence could be changed. "Students were taught how, when learning, the brain grows stronger and smarter by forming new connections between neurons" (Yeager & Dweck, 2012, p. 304) this knowledge was reinforced by asking these same students to teach this to middle school students. At the end of the study grades were compared between this group and a control group. The incremental theory group, those taught about having a growth mindset, proved to have the greatest academic growth. Similar research was conducted using seventh grade students. These students receive weekly emails teaching them about the incremental theory. These students had much better test scores on the end-of-year standardized tests. In taking this research further fifth graders were studied in response to their ability to solve logic problems. During this study the

incremental and entity theory were evaluated using praise. Praise was given as intelligence, process, or neutral. Students that had their process encouraged ultimately did better on subsequent tests and had developed an incremental theory. “These studies showed that implicit theories of intelligence could be taught in school settings and that changing them could affect academic behavior” (Yeager & Dweck, 2012, p. 305). Beyond teaching about the ability to have an incremental theory there is also evidence that instructors must also themselves possess the same theory as well as carefully consider the messages that they send through praise. (Yeager & Dweck, 2012) Throughout these research studies it is shown that students can learn to change their view or mindset and that by doing so they become more capable of learning. With this understanding, today’s teachers must learn how to determine their student’s mindsets and instruct them on ways to have a growth mindset to maximize their learning potential which is essential in today’s rigorous classroom.

Our research and that of our colleagues show that if students can be redirected to see intellectual ability as something that can be developed over time with effort, good strategies, and help from others, then they are more resilient when they encounter the rigorous learning opportunities presented to them (Yeager & Dweck, 2012, p. 306).

While government officials are calling for college and career readiness beginning as early kindergarten, teachers are becoming more focused on presenting a challenging curriculum in hopes of producing highly educated students. Perhaps more importantly than increasing academic rigor is understanding how students learn and finding ways to increase every child’s ability to reach their greatest potential. This can be accomplished

through teaching young learners the importance of having a growth mindset. Dweck questions “Thus viewing the capacity for growth as a hallmark of human nature can confer a wide array of benefits, but how malleable are people?” (Dweck, 2012, p. 620. This is what I seek to understand, how malleable are first graders? And just how much of an impact can teaching them to have a growth mindset have on their reading potential?

Duckworth & Yeager also sought to determine factors that impact academic success that are not related to IQ. In an essay, Duckworth & Yeager state “These so-called noncognitive qualities are diverse and collectively facilitate goal-directed effort (e.g., grit, self-control, growth mindset” (Duckworth & Yeager, 2015, p. 237). In *Measurement Matters: Assessing Personal Qualities Other Than Cognitive Ability of Educational Purposes* by Duckworth and Yeager, 2015, the idea of social and emotional learning is addressed. These authors assert in their essay that “There is a scientific consensus in the behavioral sciences that success in school and beyond depends critically on many attribute other than cognitive ability” (Duckworth & Yeager, 2015, p.245). These ideas support those of Dweck in that having a growth mindset is a critical attribute to academic success. Duckworth partnered with Peterson, Matthews, and Kelly to determine the role grit plays in professional success. In 2007 they conducted a set of research studies. Participants included 1,500 adults aged 25 and above, 138 Ivy League graduates 1,300 West Point Cadets, and 175 National Spelling Bee participants. Each subject was asked to complete a grit scale that had been created by the researchers. For the purpose of this discussion grit is defined as “perseverance and passion for long-term goals. Grit entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress” (Duckworth, Peterson,

Matthews, & Kelly, 2007, p.1087-1088). Much of this definition directly aligns with the attributes associated with having a growth mindset, therefore it appears the results of this study could also potentially relate to that of having a growth mindset. When discussing findings, the authors speculate that when intelligence and or talent are equally matched a person that possesses a greater amount of grit will find greater success. “Among more than 3,500 participants attending nine different colleges, follow-through was a better predictor than all other variables” (Duckworth, Peterson, Matthews, & Kelly, 2007, p.1099). As is the case with having a growth mindset grit requires perseverance and hard work. “Our intuition is that grit grows with age and that one learns from experience that quitting plans, shifting goals, and starting over repeatedly are not good strategies for success” (Duckworth, Peterson, Matthews, & Kelly, 2007, p.1091-1092). This leads to the question as to just how closely related are grit and having a growth mindset. According to the research surrounding grit and growth mindset lead to the importance of social and emotional learning as a means to academic success. It would be interesting if there was a study that looked at both grit and mindset in individuals to see if they were of equal importance.

### **Engagement Theory**

Another framework to consider is that of Guthrie’s Engagement Theory. “According to the theory, *engaged readers* are those who are intrinsically motivated to read and who therefore read frequently” (Tracey & Morrow, 2006, p. 64). This quickly becomes a complex question as researchers begin to wonder whether students are engaged because it is simply a task that they are good at, or are there other underlying factors. Guthrie also links engagement to motivation which he further breaks down to

both enjoyment and self-efficacy. (Smith, Smith, Gilmore, and Jameson, 2011) Each of these factors is closely linked the authors of one study state “clearly suggests that engagement and self-efficacy are strong and potentially instructionally relevant influence on reading achievement” (Smith, Smith, Gilmore, and Jameson, 2011, p. 203). These researchers conducted a study using both fourth and seventh grade students to look at their ability to read, perception of their reading, as well as their enjoyment of reading. One of the findings that stands out is that “Children typically assess their efficacy with relation to their peers” (Smith, Smith, Gilmore, and Jameson, 2011, p. 206). This is alarming as students are not truly viewing themselves, but rather looking to others to determine their level of success. Another finding of interest is the fact that readers may be rated as poor yet the student still finds pleasure in reading. This is important as enjoyment leads to continuation of the activity, and in reading the more you read the more you grow. A concern was raised by the authors that is suggested for future studies- “that is, students who are good readers but don’t believe themselves to be so” (Smith, Smith, Gilmore, and Jameson, 2011, p. 206). What would happen if these good readers were explicitly taught to have a growth mindset, would this improve their self-efficacy? Would it lead to even better reading success?

### **Self-Efficacy**

Ho & Guthrie (2013) sought out to research the role of motivation and reading as well, they conducted a research study that allowed dissection of motivation into several different aspects allowing greater insights. This study looked at male and female seventh grade students of varying socioeconomic statuses. Motivation was examined allowing the researchers to find that “motivation is multifaceted. Students simultaneously possess

several goals, beliefs, and dispositions that impact their achievement” (Ho & Guthrie, 2013, p. 131). These findings help educators to see that depending on the type of material presented, and assignment expectations will play a role in each student’s motivation. Understanding this can allow educators to frame assignments differently as well as to provide greater support for literature that may be less motivating to students. “Providing motivational supports for school-based information text reading is valuable for all students irrespective of their proficiency in literary reading” (Ho & Guthrie, 2013, p. 142). Throughout the research and findings of this study it is clear that motivation and self-efficacy are closely related, further that these both impact a student’s reading success. “Self-efficacy refers to one’s belief that he or she possesses the abilities to attain specific goals” (Tracey & Morrow, 2006, p. 112). Self-efficacy and growth mindset can be viewed as essential skills for all readers. Understanding that mindsets can be learned and changed would also improve one’s self-efficacy.

While much research has been conducted evaluating the interactions of students’ achievement and self-efficacy, less has been conducted in the early years of education. “If efficacy is critical for academic success, a key issue of importance is at what age self-efficacy is sufficiently developed to exert influence on academic achievement” (Lee & Reid, 2016, p. 80). Lee and Reid decided to carry out a research study using students of first through third grade that were deemed at risk to answer this question. Findings did show that there was a strong relationship between self-efficacy and reading success, these findings align with Bandura’s Self-Efficacy Theory as well as a multitude of other research studies. (Lee & Reid, 2016) Because of these findings it is imperative that administrators find ways to utilize this information to positively impact their student



learning outcomes. Lee & Reid (2016) suggest offering services from social workers to improve thoughts of self-efficacy, school counselors may also play a role in this as well. Providing teachers with professional development in this area could prove to be the most useful as they are interacting with students daily. A final thought from the authors regarding future implications suggest that “more longitudinal research and evaluation is needed to understand what approaches in early childhood education and primary grades are effective in improving academic self-efficacy” (Lee & Reid, 2016, p. 87). I would suggest that studies also view the relationship between a growth mindset and self-efficacy. Perhaps if intervention is provided to the youngest students and support is provided throughout schooling years overall academic success could be improved.

Another study carried out by Bevel and Mitchell (2012) sought to look at academic optimism in elementary students. In framing their theoretical outline, they connect academic optimism to self-efficacy. The purpose for the study was to explore reading achievement in comparison to academic optimism. Findings for the study did show that there was a positive correlation between academic optimism and reading achievement. When discussing the implications for these results they concur “AO does not only work to foster student achievement but may also contribute to other factors that are important to schools such as student engagement, graduation rates, teacher satisfaction, teacher retention, and organizational citizenship among other things” (Bevel & Mitchell, 2012, p. 783).

## **Conclusion**

Based on the literature and research I have completed I strongly believe that my study will be of great value for educators, researchers, and families. There are several studies that tout the success of and need for a growth mindset in mathematics, but few exist in literacy. Beyond that, even fewer, if any exist in regards to researching how mindset impacts the literacy skills of first graders. Being that mindset can impact one's ability to thrive not only in academics, but in all facets of life I believe it is essential that young children learn the skills needed to adopt a growth mindset early in their education. The teacher research that I am conducting also leads to new questions that can be answered through future research. Mindset studies can be conducted at various grade levels as well as within subject areas. Further, I feel as though this current teacher research project could lend itself to complete a longitudinal study in which the long-term effects of mindset could be evaluated.

## **Chapter Three**

### **Context**

#### **Community**

The study site for this research is in a large community in south Jersey. The specific school used is one of eleven total buildings in the school district. This district offers six elementary schools that service students coming from nearby neighborhoods. Per the 2010 census information the township houses 48, 559 people which is a 3.1 % increase from 2000. Representing these numbers are 17,287 households housing 13,328 families 34% of which house children under the age of 18. The racial makeup of the township at the time of the last census shows that there were 87.7% white, 5.82% black, 3.87% Asian, 0.11% Native American, 02% Pacific Islander, 0.85% Other, 1.72% as two or more races, and 3.5% identify as Hispanic or Latino. The reported median household income was \$79,017. About 2.6% of families fall below the poverty line, including 5.3% of those under age 18.

#### **School**

This study site, Hinchman Elementary (pseudonym), is one of the six elementary schools that currently has 497 students enrolled in grades one through five. Of these students, the breakdown between male and female is just about 50% of each specifically 251 males and 244 females. A clear majority of students speak English as their primary language in their homes totaling 99.3%, other languages spoken as primary include Vietnamese, Spanish, and Chinese, each at 0.2%. This district houses all ELL students at one elementary school to help provide appropriate services for these learners. The racial makeup of the school is closely aligned with that of the community 83.8% of students are

white, 6.2 % black, 4.4 Hispanic, 4.0 Asian, 1.6% two or more races. This elementary school houses students requiring a special autism program, this accounts for 20% of the population having disabilities. Students requiring ELL services are housed in another building therefore there are 0% requiring ELL services at this site. Economically disadvantaged students make up 20% of the student population. The student to teacher ratio for this building is 11:1. When evaluating the academic performance of this school it is outperforming about 50% of other schools within the state. To help ensure that the needs of all students are met there are programs offered before school, after school, as well as throughout the school day to provide academic support to students in need.

The mission of this elementary school is to work collaboratively to assure success of all learners. This mission is evident in the way the teachers, parents, parent teacher organization, and support staff work together using a team mentality. To ensure students are given the best opportunity for success the school district offers frequent professional development opportunities. When new curriculum is rolled out teachers are given time to collaborate and learn all aspects of the curriculum as grade level teams or subject specific teams. This allows teachers to fully understand what they are teaching as well as learn from one another how best to implement the curriculum. Part of the district mission statement is to provide a progressive environment; this is carried out through the ongoing review and adoption of curriculum as well as the growth of available technology.

### **Classroom**

This first-grade class is an addition to the existing four first grades. To reduce class sizes a Title IIA grant was awarded to allow a fifth first grade. The layout of the school itself has grade level pods containing four classrooms. Physically, this classroom is in a

separate area of the building. Offering five first grades has allowed class sizes to be at 17 or 18 per class. Along with the certified general education teacher, an instructional assistant is in the room for three hours each morning, as well as a push in Basic Skills Math teacher. Each afternoon another certified teacher is available for push in to provide interventional instruction to students in need of such services. Students that qualify also leave for small group reading instruction with the school's reading specialist each afternoon. The classroom is a well-organized, structured space allowing students to thrive in a positive environment. Students sit at tables that are organized in a horseshoe allowing easy viewing of the whiteboard as well as fosters ease of student monitoring by the teachers. Small group instruction occurs at a round table as well as a rectangle table providing a close proximity for teachers and students. Students are also able to work at three desktop computers or use iPads at their own tables. Technology is used to support word-work, math facts, and reading instruction. The room also has a carpet area that is used for a daily calendar routine and shared reading. A wide variety of books are offered to students via bookshelves and baskets that allow for high visibility. The curriculum followed in this classroom is predetermined by the district. For phonics instruction, the Foundations program has been used for many years. New this year are reading and writing programs. Writing is being instructed following Lucy Calkins writing workshop format. Schoolwide Reading Fundamentals is being used to instruct whole group reading lessons for comprehension strategies. Guided Reading groups are also used to provide reading instruction based on each child's reading level. Lessons are supported using an online reading component provided by Schoolwide as well as use of Spelling City to give

practice with word work. A projector is also used to display PowerPoint presentations to guide instruction in writing lessons.

This class has 18 students, 10 of which are boys, and 8 girls. Race is primarily white accounting for 15 students, there is one mixed male student, one Hispanic female, and one black female student. The class was assembled by the principal based on gender and academic abilities. There is a wide range of abilities, some students are reading at an emergent kindergarten level while others are reading at a second-grade level. The class is a designated Basic Skills Instruction room allowing for greater support using a push in BSI math teacher. Basic Skills Reading instruction occurs through a pull-out program for those who qualify. Six students currently qualify for basic skills math support, another six students qualify for basic skills reading support, and two students receive speech services via a pull-out program.

Every first grader was assessed using a Developmental Reading Assessment to determine their reading level, they were then asked to complete a mindset survey as well as a logic puzzle.

Barb (pseudonym) is an outgoing little girl that appears to be happy all the time and loves school. Nancy (pseudonym) is a very quiet girl; she is able to get along with everyone and does all that is asked of her to the best of her ability. Steve (pseudonym) is a popular little boy that all his peers want to be with. He is an active participant in all lessons and shows enthusiasm for learning. Dave (pseudonym) is on the quiet side only answering questions when called upon. He shows an indifference to school and learning. Kelly (pseudonym) is a young first grader and is very soft-spoken. She is reluctant to speak up in class and is a slow, cautious worker. Terry (pseudonym) is very vocal and

demands attention from her teachers and peers. She avoids taking risks and looks for reassurance that she is doing the right thing on every assigned task.

For the purpose of this study six students were selected to track growth over the course of the study. The focus group consists of four girls and two boys representing three different reading groups. Focusing in on these six students allows a deeper reflection of their mindset based on both surveys and actions observed in the classroom. Students will be observed in regards to their responses when both easy and challenging tasks are assigned. Notes will be collected regarding student responses as mindset lessons are presented. These lessons will be presented as read-alouds, video presentations, class discussions, and written responses. Data will be collected through a teacher journal as well as use of surveys, logic puzzles, and Developmental Reading Assessment. Chapter Four will present findings for all this data.

## **Research Design/ Methodology**

### **Teacher Research**

This study is qualitative teacher research. Yilmaz provides a clear definition of qualitative research by stating “I define it as an emergent, inductive, interpretive and naturalistic approach to the study of people, cases, phenomena, social situations and processes in their natural settings in order to reveal in descriptive terms the meanings that people attach to their experiences of the world” (Yilmaz, 2013, p. 312). This definition helps to explain the research that is to be carried out as the research will be done by collecting anecdotal notes based on teacher observations as well as collecting data via surveys. As the teacher researcher, I will be working with my own first grade class and will naturally develop a close relationship. This prevents the detachment and impartiality

needed to complete a quantitative study (Yilmaz, 2013). In contrast to qualitative research quantitative research “can be defined as research that explains phenomena according to numerical data which are analyzed by means of mathematically based methods, especially statistics” (Yilmaz, 2013, p. 311). This type of research would not be able to be carried out by a teacher within her own classroom.

The topic of this research came about organically. Beginning a new job at a new school in a new grade I was unsure of what topic I should use to conduct research. I began to wonder what problems was I encountering with my first graders. As I did this, I was reminded of the day I heard one of my first graders claim that he hated reading because he was not good at it. It was evident that I had concerns over how my students viewed their ability to learn. I began thinking about the importance of young children loving school, and having a desire to learn. I remember a book that I had previously read that addressed mindsets as a factor leading to academic success. “Here, questions emerge from day-to-day practice and from discrepancies between what is intended and what occurs. These are often highly reflective, immediate, and referenced to particular students or situations” (Cochran-Smith & Lytle, 2009, p. 42).

### **Procedure of Study**

This study took place in my first-grade classroom during normal instructional time. Within the first few weeks of school each child was assessed to determine their individual reading level using the Developmental Reading Assessment. At that time, I noticed that some students entered the testing area with a sad face and one even commented “I don’t like to read, I am not good at it.” It quickly became evident that some students viewed themselves as lacking the ability to read while others were



confident in their abilities. I became concerned that some students would not be able to find the same level of success as others because of their mindset. This study was designed to analyze the mindset of each child to determine whether they had a growth or fixed mindset, and then to evaluate how mindset impacts student's ability to read. Qualitative inquiry strategies used to collect data initially included each child completing a mindset survey, each child was timed while trying to complete a challenging logic task, as well as student talk surrounding their thoughts about their own intelligence.

This research was conducted in a naturalistic setting as all data was collected as part of normal first grade instruction. Initial data was gathered using a teacher journal in which anecdotal notes were recorded. Later data was collected while students worked in small groups to complete the mindset survey, this survey was read aloud to students that needed the additional support. Some students could read it independently but had me next to them to answer questions or offer help reading as needed. To complete the logic puzzles students were individually given instructions about the task, they were told that they could take as much time as they wanted to complete the task, or could finish when they wanted. Each student was discretely timed to determine the amount of time and effort they would be willing to give a challenging task. Using the logic puzzle allowed for me to see if students exhibited the skills of having a growth mindset rather than just relying on student responses to the mindset survey.

### **Data Sources**

At the onset of this research I began using a teacher journal. This journal was used to collect information about plans I was making for lessons, observations of students in action, as well as thoughts after lessons had occurred. Using the journal gave me a place

to keep all my thoughts before, during, and after school. This helped to organize my thoughts and plan for future lessons. Reviewing the journal helped me to see how my students reacted to each lesson as well as for me to evaluate the effectiveness of my lesson planning.

The first piece of data collected was that of anecdotal notes recorded surrounding student attitudes toward assignments. I recorded comments about tasks that students were given as a mean of monitoring what their actual attitudes show opposed to what they think they show.

Each student was asked to complete a Mindset Assessment Profile; this is a survey that questions beliefs about one's ability. Students were instructed that there was no right or wrong answers and that they should just answer each question as honestly as they could. The profile has 8 questions that are answered as “disagree a lot” to “agree a lot” using a 1 to 6-point scale. Students that were not able to read had each statement read to them. Students that could read were given the option to read independently and were told I was there to help if they needed.

Surveys do not always give all the insight needed to understand a belief. It is not uncommon to state a belief in something verbally, but then not show it through actions. To further explore student's beliefs and see what their actions showed each child was asked to complete a logic puzzle. This puzzle was geared toward second graders so it would pose a challenge, but not beyond the ability of these children. Each child was individually instructed on how to complete the puzzle and then was timed to see how long they could attend to the task. They were told that they could work on the activity as long as they desired or could stop when it became too challenging. This would show if

students truly desired to work hard and would give a persistent effort at a challenging task. Anecdotal notes were taken during the activity as well as at the end when students had decided they no longer wanted to continue.

## Chapter Four

### Data Analysis

#### Introduction

Cooking the data allows teacher researchers the opportunity to thoroughly discover what is happening in their classroom. Chapter four will do just that as I review the data collected and determine the meaning of it all. As I began to glance over my data I was concerned about what the outcomes may show. Shagoury and Power (2012) share “Looking closely at our data can give us a reality check on what’s really going on in terms of our students and their learning” (p. 136). Initially, I was nervous that my entire question was not valid based on some of my observations of my students. After reading *Living the Questions* I was reminded to return to my data. Shagoury and Power (2012) state “When we get discouraged, it can be useful to revisit students’ work and notice their growth and progress” (p. 136-137). Upon doing so I determined that there was a set of six students that I should focus on for my data collection. I conducted my research over five weeks in my classroom during normal instructional times. During this time, I had students participate in a mindset survey at the onset and end of the study. Students also completed a timed logic puzzle to determine willingness to work through a challenge. Reading levels were ascertained in September, November, and again in December to evaluate growth in overall reading abilities. Finally, a teacher journal was maintained that allowed for collecting student anecdotes and teacher observations.

My data analysis is presented primarily in a narrative as I was able to collect student anecdotes on an on-going basis. “There’s something about a graph that allows

researchers to see patterns they might otherwise overlook” (Shagoury & Power, 2012, p. 153-154). Graphs allow for a quick visual representation of the outcomes of a study, I was able to prepare three separate charts that represent the changes each student went through over the course of this study. At the onset of this study I set out to answer the question as stated in chapter one “The specific question is how does mindset impact reading abilities of first graders? Sub questions include What role does motivation play in mindset? What happens when students are empowered to take ownership over their own learning?”

### **Mindset Profiles and Work Ethic**

Mindset is the concept of what a person believes about themselves, for the context of this study thoughts about one’s ability to learn and knowledge will be addressed. Mindset can be measured on a continuum representing those with a fixed mindset (believe that you have a set amount of knowledge that cannot be changed) versus those with a growth mindset (believe that you can increase your intelligence and that working hard leads to more knowledge). (Dweck, 2011) Each child was given a survey to determine their initial mindset using the Mindset Assessment Profile from Mindset Works Inc. Profiles are created by scoring the survey and aligning the score with the defined profile, results range from Fixed scores of F5, F4, F3, F2, F1, or Growth scores of G1, G2, G3, G4, G5. The higher the number the greater the profile aligns with that mindset, while lower numbers are more neutral. All surveys were scored, the six students that I had determined to focus my study on showed that they all had a fixed mindset of varying degrees on the initial assessment. At the end of the study the same survey was administered which showed that all students had adopted varying levels of a growth

mindset. Students thoughts about their ability to read was discussed by Smith, Smith, Gilmore, and Jameson when they questioned “it may actually be beneficial that students who are weaker readers are not acutely aware of that status, as it may impair their progress in reading” (Smith, Smith, Gilmore, and Jameson, 2011, p. 206). This supports the notion that once these first graders adopted a growth mindset they were able to have greater success as they no longer had a self-doubt thus leading to them putting forth greater efforts. Table 1 shows results from initial survey in comparison to post survey.

Table 1  
*Mindset Assessment Profile Scores*

Student	Initial	Mindset	Post	Mindset
Barb	21	Fixed F2	39	Growth G3
Nancy	25	Fixed F1	35	Growth G2
Steve	23	Fixed F2	43	Growth G4
Dave	26	Fixed F1	40	Growth G3
Kelly	25	Fixed F1	42	Growth G4
Terry	26	Fixed F1	46	Growth G5

**\*All names are pseudonyms**

Based on the results of the Mindset Assessment Profile students initially showed that they had fixed mindsets. Typical beliefs of this mindset to be “You lean toward thinking that your intelligence doesn’t change much. You prefer not to make mistakes if you can help it and you also don’t really like to put in a lot of work. You may think learning should be easy” (Mindset Works Inc., 2002-2012). When students possess this mindset they are more likely to shut down when facing a challenge and do not feel as though hard work will make a difference. At the end of the study scores showed that each of these six students now possessed a growth mindset. Students with this mindset typically believe “You believe that your intelligence is something that you can increase. You care about learning and you’re willing to work hard. You do want to do well, but you think it’s more important to learn that to always perform well” (Mindset Works Inc., 2000-2012). When students hold this mindset they are willing to work hard and take pleasure in learning new things. When faced with a challenge they are eager to attempt it in hopes of increasing their intelligence.

Being that I am researching children that are only six and seven-years old I wanted to be sure that their mindset profiles aligned with their work ethic. To evaluate this each child was given a grade level appropriate logic puzzle to solve. Each child was timed as they attempted to crack a code using symbols that represented letters. The amount of time spent on the activity varied greatly, students worked from 20 seconds up to 3 minutes. Five of the students reported that it was “too hard” the other stated “this is frustrating”. These results aligned with their mindset assessment in that they had a strong desire to find a task that was easy and lacked the value of struggling to compete a challenging task.

Table 2  
*Logic Assessment: Time Spent Deciphering Codes*

Student	Initial	Post
Barb	1 minute	8 minutes 40 seconds
Comments	“Really hard. I give up!”	“I’m gonna do the whole thing.” “It was a little hard.”
Nancy	35 seconds	2 minutes 52 seconds
Comments	“I’m scared” “It got even harder.”	“It’s going to be easy.” “I don’t know the second row.”
Steve	2 minutes 20 seconds	11 minutes
Comments	“This is too hard. I can’t do this”	“It was easy, I could keep going.” (ran out of allotted time)
Dave	3 minutes	11 minutes 5 seconds
Comments	“This is too hard” “I did it all wrong”	“Really fun!”
Kelly	34 seconds	2 minutes 2 seconds
Comments	“This is too hard.”	“It looks too hard.”
Terry	20 seconds	18 minutes 11 seconds
Comments	“This is frustrating, I can’t find it out”	“I had a growth mindset, I wanted to give up but I didn’t!”

**\*All names are pseudonyms**



The same logic puzzle was given to these students at the end of the study to determine if their work ethic changed because of their mindset change. The results were dramatically different. During the second puzzle students spent from 2 minutes to 18 minutes working. Comments this time included “I’m gonna do the whole thing”, “Really fun!”, and “It’s going to be easy.” The greatest difference occurred in Terry as initially she spent just 20 seconds engaged in the task stating “This is frustrating! I can’t find it”. Five weeks later she spent 18 minutes and 11 seconds on the same exact task, when asked why she worked so hard she said “I have a growth mindset!” During those 18 minutes, she was able to decipher the code and exclaimed with pride “I FINISHED!”. Yeager & Dweck concluded “they need mindsets that represent challenges as things that they can take on and overcome over time with effort, new strategies, learning, help from others, patience” (Yeager & Dweck, 2012, p. 314). Accepting challenges and working hard are characteristics of a growth mindset. It is evident through viewing this data that these students had adopted a growth mindset in concept and in action and because of this mindset they could work through literacy challenges.

### **Power of YET**

Using literature to teach lessons always brings the best results in my experience. In order to continue teaching students the characteristics of having a growth mindset I sought out read alouds that students would be able to see a character go through a transformation of a fixed mindset to a growth mindset. First graders are highly engaged in read alouds and are eager to look for the message that a story is trying to convey. The first book I chose was to share with the class was *Scaredy Squirrel* by Melanie Watt. My first graders fell in love with this story and have since been checking out the various titles

from the library. The story unfolds as the squirrel shares all his fears and the ways in which he prepares himself for anything that could potentially go wrong in life. Quickly the first graders catch on that the squirrel's fears are causing him to miss out on the fun that life can bring because of his fixed mindset. During the read aloud I stopped to allow for students to share reactions and predictions. At one point Nancy shared "the squirrel will be safe if he just stays in his tree". As the story goes on the squirrel accidentally falls out of his tree and loses his safety gear with this he runs and hides. Students share their predictions which range from he will stay hiding to he should just go out and explore the world. Eventually Scaredy Squirrel ventures out and nothing terrible happens. Kelly shares that "he had a growth mindset now and he can do new things". Another student says "now he can do different things". Scaredy Squirrel has a change in mindset that allows him to leave his tree and no longer live in fear of what can go wrong, he instead looks to see all the exciting things he had been missing out on. The first graders can see the impact that mindset had on the squirrel and the connection was made that they too can have change in mindset. One student ends the discussion by saying "if you have a growth mindset you can challenge your brain and learn harder stuff". It is essential that the first graders accept that their own mindset can impact their ability to learn new literacy skills. Bevel and Mitchell state "Individuals with a high sense of self-efficacy will see themselves as successful and will be motivated by these beliefs" (Bevel & Mitchell, 2012, p.774). Another story that was selected to help teach the impact of mindset is the story *Giraffes Can't Dance* by Giles Andreae. In this story, Gerald, the giraffe gave up on joining his friends in the jungle dance because he believed he could not dance. Fortunately, Gerald meets a cricket that helps him to see that he can dance, he just needs

to approach it in a different way than the other animals. In this colorful children's picture book the lesson is learned that when Gerald changes from a fixed mindset to a growth mindset he is open to accept help, and finds that he too can dance. Gerald had to be willing to ask for help and work hard though a challenging task to learn a different way to dance. This story brings to life the lesson that we do not always learn something the first time, and that often we must work hard and ask for extra help to learn to do something new. After the story the class engaged in a discussion about the concept of the *Power of YET*. One student's comment was "without *yet* it's like you can never do it", another student shared "*yet* changes it to a maybe, and finally, a student shared "*yet* tells you that you can do it eventually". After the discussion, we created an anchor chart listing things that students could not do *yet*. As each child stated what they could not do *yet* they explained what they can do now to work toward completing their goal. One child stated "I can't read a chapter book *yet*, but I can read a short book". The next day each child wrote a goal by completing the sentence starter "My goal this year..... with effort, I know I can do it!". These goals were hung in the classroom along with the Power of YET anchor chart as reminders that hard work leads to learning.

### **Mindset Impacts Reading**

Upon reflecting about the study, I feel mixed emotions, at one moment there is too much to report while the next something is missing. Trying to organize it all into clear results is a daunting task. Shagoury and Power (2012) say that data analysis is "Finding patterns with your data, viewing each bit of information as part of a larger puzzle you must put together" (p. 136). To this end I will attempt to tie the data together as I return to the initial question of how does mindset impact literacy in first graders. The

answer is diverse! During a recent whole group reading lesson in which students were learning about text features of a nonfiction biography a student made a connection to having a growth mindset. In the story, it was stated that Dr. Seuss was turned down to write adult books but went on to publish children's books. One student raised their hand to share that "Dr. Seuss showed that he had a growth mindset because he did not give up when he faced a challenge." Another example occurred during small guided reading groups when a student asked why some groups met with the teacher daily while others did not. One student said "those students don't know how to read, but it's ok, they just can't read YET".

During guided reading groups Kelly was asked to read a new text for a benchmark assessment to determine her current reading level. Kelly's reading level had grown from a Fountas and Pinnell D to a Fountas and Pinnell F in just one month. When asked what she thought of her reading she stated "Great! I didn't know I could do it. I thought I would give up because the words were tiny but if felt great that I didn't give up. Not giving up helps you be very good at reading".

In another guided reading group students were told that they would be reading a more challenging text. The children showed visible excitement and one student said "our brains are going to get smarter if we all try our best". Not only did the students act and say that they were excited they were able to persevere through the challenging text and found success.

Table 3  
*Fountas and Pinnell Guided Reading Levels*

Student	September	November	December
Barb	B	B	C
Nancy	B	B	C
Steve	C	D	F
Dave	C	D	F
Kelly	D	D	F
Terry	D	D	F

**\*All names are pseudonyms**

Each child was assessed to determine their reading levels in September and again at the onset of this study in November. There were significant reading gains during the five-week research project. Not only did all students grow in reading levels, two of the students I focused on were deemed to have exhibited so much growth that they are being released from the basic skills reading support offered by the school. The reading specialist shared that they had shown a whole new attitude in reading group, and with their level of success that she feels as though their progress would be hindered by keeping them in the program.

When looking over the data for the six students I strongly feel as though they have grown because of learning to adopt a growth mindset. Each of them exhibited a fixed mindset initially which resulted in a lack of motivation and poor work ethic. These were students that required teacher support to complete all tasks. When presented with a new text they were quick to give up and not attempt unknown words. While the results

vary, each student did show growth both academically and emotionally. Terry, in particular, entered first grade struggling in all areas; she was unable to complete tasks independently, required basic skills reading and math support and was reading below grade level. Her mindset survey showed that of a fixed mindset. When asked to complete the logic puzzle she only worked for 20 seconds before quitting due to frustration. Five weeks later this same student has shown tremendous growth socially and academically. She was discharged from basic skills reading group because she had shown so much growth in her independent reading level. She is now able to work independently and takes pride in her mistakes as opportunities to learn. When asked to complete the same logic puzzle she worked hard and intentionally decided not to give up. She was able to find success and claims it is because she now has a “growth mindset”. Terry’s case is an extreme, but it does show how important it is to have a growth mindset. Currently, each of these six students have a growth mindset based on both the mindset survey as well as their work ethic while completing the logic puzzle. More importantly, they show that they are willing to work hard at challenging tasks such as tackling longer texts with more words. When assigned a new text that contained several new complex vocabulary terms Kelly stated “it’s good to keep learning”. Five weeks ago, this same student would have sat quietly and shut down when presented with a difficult task. These students have undergone a transformation that has allowed them to look at themselves as capable learners with a willingness to take responsibility for their own learning.

## **Chapter Five**

### **Conclusions, Limitations, Implications**

#### **Conclusions**

At the onset of this study I found that I had six students in my first-grade that held a fixed mindset toward literacy activities. When they faced a challenge their approach was to simply give up and say that it is just too hard. As cited in chapter two Martin explains that while intelligence affects student outcomes so do Implicit Theories. These Implicit Theories represent the way that a student views their own abilities to learn which directly impact academic success. (Martin, 2014) Because these students held a mindset that was fixed, meaning they did not believe they had an ability to grow their brains, they struggled with many literacy tasks. These were students that were struggling readers, they were reluctant to complete tasks without teacher support, and showed little desire to participate in class discussions. These six students served as the focus group for this study.

Fortunately, I found the same results as Dweck, in that mindsets can be changed. Dweck states “The hallmark of human nature is each person’s great capacity to adapt, to change, and to grow” (Dweck, 2012, p. 614). Each of the six first-graders that I focused my study on were able to adopt a growth mindset as evidenced by their change in mindset profile (Mindset Works, Inc., 2012) as well as an increase in their work ethic as seen when completing the logic puzzles. I assert that these students had a change in mindset as a direct result of lessons that were taught in the classroom. Over the course of five weeks the students were exposed to literature that showed favorite characters grow from a fixed

mindset to a growth mindset. The class not only heard these stories, but also participated in dialogue surrounding what led to changes in the characters develop. Further they completed activities post reading that encouraged them to make personal connections to the story. They watched videos in which friendly characters explained how your brain grows through hard work and that perseverance pays off. Again, at the conclusion of the video class discussions were held allowing students to gain further insight into growth mindset attributes. Students spent time completing mindset goals related to literacy skills. Classroom conversations allowed students to express their thoughts regarding mindset and how important it is to have a growth mindset. I believe each of these things worked together to help these students gain an understanding that they too could adopt a growth mindset.

First grade presents the first real educational experience for children. If they can learn to adopt and maintain a growth mindset their ability to achieve their maximum growth potential increases. Yeager and Dweck cite “academic standards rise, when they do, a person’s implicit theory of intelligence can affect whether they respond resiliently” (Yeager & Dweck, 2012, p. 304). It is my belief that my first graders are prepared to face challenging academic standards as a result of adopting a growth mindset.

### **Limitations**

Teacher research is a wonderful thing that can bring about great benefits to the field of education, however, there is a piece to teacher research that readers must be cognizant of. All research conducted will have some limitations. For this particular research project time was a huge limitation. This study took place over five weeks in a first-grade



classroom. Prior to beginning the study finding time to fit all of the standard curriculum was a daily challenge, adding in mindset lessons added to this stress. Allotting time for lengthy discussions became difficult and often were cut short due to these time restrictions. Also, related to a time restriction is that of the duration of the study. Students showed a true understanding of mindset and began to refer to having a growth mindset in relation to all academic areas. However, I wonder if this change would be a lasting impact? This leads to a great question for implications.

This study took place in a class of just 18 first-grade students from the same classroom. Each of these students does represent unique issues such as different home life, socio-economic status, school background, and learning abilities. Within this classroom, a smaller focus group of 6 students was formed to evaluate more closely. These small numbers make it difficult to determine if these results can be generalized across other first grades, or beyond to early elementary in general.

### **Implications**

Throughout this study, I would find myself asking as many questions as were being answered. My first graders quickly became open to the idea of having a growth mindset. After a few short weeks, I heard the term used frequently throughout the day. One question I began to ask myself was regarding the longevity of having a change in mindset. Meaning, these first graders had learned to change their mindset from fixed to a growth mindset over the course of the five-week study. First grade is the first time that many children attend school on a full-time basis. It would make sense that along with learning the typical expectations of school life such as writing your name on work, sitting

in a chair, raising your hand to speak, that children would also learn about their ability to learn and grow. I imagine that school could be revolutionized if every child was taught the aspects of having a growth mindset and began to believe that they had the ability to grow their brain through hard work. Empowering students to take ownership of their learning and helping them to understand that mistakes are part of growing their brains could help young learners develop positive life-long learning habits.

My question is though does this last? Does this change in mindset stay with students from year to year? I believe this study could lend itself to transitioning to a longitudinal study. It would be beneficial to follow these students through their elementary years to monitor their mindset and work ethic. This would help to evaluate the effectiveness of the initial teaching of the importance of and how to adopt a growth mindset. Are there potential benefits for first grade classrooms? If so, what are they?

Another question I have considered is does the mindset need to be reinforced at the onset of each academic year? Perhaps having a growth mindset takes nurturing to continue to grow. I wonder if it is valuable to provide refresher lessons of having a growth mindset at the beginning of each school year just as all other classroom procedures are reviewed each year. To take this a step further and reflecting on my previous school in which I initially learned about mindset, I question whether a school could adopt mindset as a schoolwide mission. Being that mindset impacts so much of emotional and academic success it seems as though having an entire school that keeps mindset at the forefront could be a beneficial way of fostering growth in students.

My focus was on how mindset impacted literacy skills, while conducting research there was a significant amount to support mindset in relation to mathematical abilities. The question this raises is can one's mindset differ based on the task at hand? For instance, can you learn to adopt a growth mindset for literacy skills yet maintain a fixed mindset in mathematics or vice versa. If this is the case should mindset be taught in such a way that it is not directed toward any specific academic area?

A final question that I ponder is related to a recent change regarding mindset. As I began my research there was little to be found in the area of mindset and its impact on students' education. Recently I have noticed articles about mindset popping up in all facets, the theory is found being discussed on social media sites such as Facebook, twitter, and Instagram. Mindset curriculum can be purchased as prepackaged programs. The question this leads to is will these programs be sufficient? Do teachers need more background and understanding related to the theories leading to a need for a growth mindset?

In conclusion, based on this study I have found that mindset does have an impact on first graders ability to complete tasks and work through challenges. Further, mindsets can be changed over time leading to children adopting growth mindsets leading to greater academic success as evidenced by improvement in reading levels. Mindsets could potentially play a large role in a student's growth and therefore should be considered as a means to improve the progress in struggling readers. Finally, being that mindset theories are new there are many areas for future studies that are needed to help broaden the understanding of the impact of mindset on learning.

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