

Mindset and its Impact on Reading Motivation

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Abstract

This study examines the impact of teacher interaction and instructional strategies on students' mindset along with the relationship between students' type of mindset (entity and incremental) and reading motivation. Dweck (2007) has conducted extensive research on individuals' views on intelligence and ability and this study was an extension of her findings that teacher language could impact students' mindsets. In this study, 20 third graders who attended a public charter school completed a scale based on, the Mindset Assessment Tool (MAT), assessing their mindset, fixed or growth. In addition, their reading motivation was assessed with the Motivation to Read Profile (MRP), which consisted of scales assessing their self-concept as readers and their value of reading. Six students identified as having a fixed mindset participated in a 12 day intervention where growth-oriented language was implemented throughout reading activities and challenges. At the end of the intervention the 20 students were re-administered the original scales. No significant difference was found between the fixed and growth mindset groups' reading motivation scores before or after the intervention. In addition, this study found the experimental groups' mindset (fixed) was not significantly influenced by the small-group intervention infused with purposeful teaching strategies and language. Hence the null hypotheses that pre and post intervention motivation to read would be statistically equivalent for students initially identified as having fixed and growth mindsets were retained. The null hypothesis that MAT scores for students with fixed mindsets would not change significantly due to the intervention also was retained.

CHAPTER I

INTRODUCTION

Reading motivation often is linked to a student's personal attributions or mindset about his or her reading achievement (Gambrell, 1996). The evident decline in reading motivation in recent years clearly has affected student reading achievement and comprehension. To address this decline, teachers often begin by creating literacy environments with books of interest and reading lessons of purpose, rather than tapping into students' mindsets and/or self-concepts, which may underlie and influence students' efforts and attitudes about reading. Students' self-concepts related to their reading abilities are predictive of reading motivation and development of students' mindsets (Medford & McGeown, 2012).

Students' mindsets can determine learning behaviors and their attitudes regarding challenges (Dweck, 2010). In general, a mindset is an individual's attitude about personality, traits, and intelligence. These attributes can be considered from two perspectives: growth (incremental) or fixed (entity). Students with a fixed mindset believe their traits and intelligence are innate and can develop only to a certain predetermined level, whereas students with a growth mindset believe intelligence can develop with time and experience.

Students often perceive themselves as competent or struggling in terms of reading ability based on their success with certain reading tasks. When a child is faced with reading assignments on which he or she feels incompetent or experiences repeated failure, reading motivation and self-concept are likely to decline. In contrast, a child who is successful with reading tasks will experience increased motivation and reading self-concept (Medford & McGeown, 2012). However, research, such as that reported by Dweck (2010), suggests that students' perceptions of the outcomes of reading tasks are based on their mindsets. Students with a growth mindset view

challenges and failures as opportunities to develop different strategies. They learn from those experiences and value effort and hard work. In contrast, students with fixed mindsets associate multiple attempts with failure and a lack of intelligence. They are less likely to persist when faced with challenges . With this understanding, it is necessary for teachers to support and facilitate an environment in which a growth mindset is promoted to encourage reading success.

Teachers hold the power to create a culture which fosters a growth mindset so that students are motivated to become life-long readers and approach challenges, such as reading complex texts, with resilience and as if they were opportunities for learning. Some researchers believe that through their choice of language and their responses to students' approaches toward academic and other tasks, teachers can help transform students' mindsets from entity (fixed) to incremental (growth) (Dweck, 2007). Teacher modeling and feedback, which include giving appropriate praise focusing on the process of learning and discussing strategies applied, encourage students to perceive their efforts as constructive and to value reflection (Dweck, 2010). To promote a growth mindset, teachers also can introduce the concepts of the two mindsets (fixed and growth) explicitly. Direct instruction about these constructs allows students to reflect on and participate in an open dialogue about their perspectives when approaching reading or other challenges in the classroom .

This researcher became interested in learning more about students' mindsets in her role as a classroom teacher. She observed a variety of approaches and attitudes students displayed when reading, and wished to determine whether explicit instruction about mindsets and deliberate use of growth-oriented language by teachers would improve the reading motivation of students with fixed mindsets.

Statement of Problem

This study is designed to explore the relationship between students' type of mindset and their reading motivation. Additionally, it explores whether students' mindset can be influenced with purposeful teaching strategies.

Hypotheses

The following null hypotheses will be tested to assess the impact of the intervention.

Null Hypothesis 1

There will be no statistically significant difference between the pre-intervention reading motivation of students with growth versus fixed mindsets.

Null Hypothesis 2

There will be no statistically significant difference between the pre and post-intervention mindsets of students who received a strategic intervention to promote growth mindsets.

Null Hypothesis 3

There will be no statistically significant difference between the post-intervention motivation to read of students who received a strategic intervention to promote growth mindsets and that of students who did not receive the intervention (and who initially demonstrated growth mindsets).

Operational Definitions

Growth mindset- the belief that a person's traits, personality, and intelligence are malleable and can be developed or altered.

Fixed mindset- the belief that a person's traits, personality, and intelligence are innate, fixed or unable to be changed.

CHAPTER II

REVIEW OF THE LITERATURE

It is often assumed that students' success in reading and their motivation to read are based solely on exposure to print, availability of appropriate materials, and effective instruction. Although these are key components of a child's reading progress, the influence of interactions with teachers and the messages sent to students through these interactions also are important and easily can be overlooked. Recent research such as that reported by Dweck (2007) has suggested that the language used in interactions with students in terms of their performance and ability can transform students' thinking about a task and the ways they interpret and deal with success or failure. Although there are many factors that influence reading motivation, this review will examine students' self-worth and perception based on specific tasks and interactions. With a greater understanding of the implications of the messages and interactions they share with students, teachers can become more aware of the impact they have on a child's mindset and his or her subsequent motivation and success in reading. This literature review will examine research and expert opinion regarding factors that influence students' mindsets, motivation and achievement and how these factors apply to struggling readers. The first section will discuss fixed versus growth mindsets. The second section explores students' mindset in relation to the classroom setting. The relationship of mindset, motivation, and achievement among struggling readers is the topic of the third section. Subsequent sections examine the impact of a growth mindset on reading motivation and building a growth mindset to promote motivation.

Fixed versus Growth Mindsets

Over time, individuals form views and beliefs about their personality and intelligence, which reflect their “mindset.” A mindset can be viewed as fixed (entity) or growth (incremental). In particular, intelligence can be examined from these two views. A person with an entity view of intelligence believes his or her qualities are “carved in stone”. This type of thinker is said to have a fixed mindset (Dweck, 2007). Individuals with a fixed mindset believe that each person is allotted an immutable amount of intelligence, along with a certain personality and moral character. In contrast, an individual with an incremental view believes intelligence, moral character, and personality can be altered with effort and improved over time. This is also known as a growth mindset (Dweck, Chiu, & Hong, 1995).

Research regarding the two types of mindsets, entity and incremental, began with observations of children who held helpless or mastery-oriented responses to learning (Dweck & Leggett, 1988). Children classified as helpless focus heavily on traits, personal inadequacy, poor intelligence, and poor memory. They often demonstrate negative affects toward learning challenges and much of their energy is spent trying to appear more competent than they actually feel. Rather than taking on new learning challenges, children with helpless responses to learning tend to select tasks which they know they can complete successfully. In the classroom, students with helpless orientation may not challenge themselves and may be particularly discouraged when they are confronted with challenges like learning a new concept or skill.

In contrast, mastery-oriented children or those with a growth mindset enjoy challenging tasks and do not feel intimidated by such activities. For these children, challenges are met with interest and are perceived as something to be overcome with effort. These children can and want to apply self-instruction and self-monitoring to overcome challenges (Dweck & Leggett, 1988).

They also are more likely to choose tasks that require significant effort rather than tasks they know they can complete (Smiley & Dweck, 1994). Children with a growth mindset believe putting in and evaluating the necessary effort to attempt or complete the challenge is the way to “stretch themselves” and become smarter (Dweck, 2007, p.6).

Mindset and the Classroom

The mindsets with which students enter the classroom, whether fixed or growth, can affect their approach to specific challenges or difficult tasks. Based on students’ views of intelligence, different attributions are made about failure and success (VanDeWeghe, 2003). As stated previously, students with a fixed mindset avoid tasks in which effort is needed. Those with fixed mindsets believe if you hold the ability, the task should come naturally. This leads to the conclusion among many students that if they need to work hard, they are not smart (Dweck, 2010). Dweck maintains that when their intelligence is tested, students with a fixed perspective easily become discouraged or defensive, causing them to withdraw from the task or blame others for their errors and failure. On the other hand, students with a growth mindset respond much differently to specific challenges or difficult tasks. These students attend to the challenge by applying a variety of strategies and putting forth the necessary effort to try or solve the challenging task effectively.

The way in which students view their intelligence dictates motivation and the goals they set. Teachers and parents need to be aware of the contrasting mindsets and the ways in which students approach and respond to tasks (VanDeWeghe, 2003). The teacher’s praise can greatly shape and reinforce students’ mindsets and their perception of personal ability and motivation to succeed (Mueller & Dweck, 1998).

Parents frequently have praised children when they perform well on a task, believing it will make them feel smart and confident. However, some studies indicate that praise offered after success can create the opposite outcome. Praise immediately following success can lead children to feel pressure to perform at equal or higher ability in the future and they also may begin to detect insincere feedback. Children who are praised for intelligence are more likely to choose only those tasks in which they know they can be successful. They also frequently become interested in finding out the performance of others on similar tasks, in a competitive manner.

Children who are praised for effort or work ethic appear to be more interested in seeking out challenges and learning about new strategies they can apply to current or new challenges than those who are praised for intelligence (Mueller & Dweck, 1998). Findings also suggest that children who receive praise for effort may be more adaptive and likely to persevere after a failed attempt than children who are celebrated for intelligence or skill.

Mindset, Motivation, and Achievement for Struggling Readers

The window of development for intrinsic motivation and reading achievement appears to occur during the students' elementary school years and is facilitated by teacher modeling and discussion, along with the creation of a literate environment (Gambrell, 1996). However, teachers currently are concerned about the lack of stimulation and maintenance for reading motivation and the impact it has on students' reading achievement and comprehension (Park, 2011). Students typically are asked to answer a series of surface level questions or create meaningless projects, which seem to have very little impact or motivation for the 21st century student. Low-leveled tasks lacking purpose and engagement can lead to a decline in motivation.

Motivation depends on many factors. It is important to note that motivation is considered to be the "energizer" of reading skills and ability, not necessarily the predictor of reading success

(Logan, Medford, & Hughes, 2011). In the field of educational research, positive motivation has been considered as intrinsic, mastery-oriented, and perceived competence, each of which tends to decline as students become older (Park, 2011). Focusing on the subject of reading, Park maintains that beginning readers often have a positive self-concept but this eventually declines when perceptions about ability and difficulty become more prominent in primary grades. The way students respond to their reading ability and/or the difficulty of the tasks they are to perform greatly depends on their mindset, fixed or growth, which can both impact and determine students' motivation.

In learning and achievement situations, students either hold internal or external expectancies. Internal expectancies are those in which students attribute the outcome of their performance to their efforts. Internal expectancies also have been identified as intrinsic motivation, in which readers tend to put forth greater effort and persistence when attempting tasks, as they believe their success is related to effort. (Logan et al., 2011). Those students with external expectancies attribute the outcome of their performance to the forces and actions of others (Dweck & Ruppucci, 1973). Logan et al. (2011) mention that students who exhibit external motivation may become disinterested and resentful when solutions do not come easily to them and they often have to be coerced to display effort with some type of external goal or reward.

As stated, children's intrinsic motivation to read tends to decrease over time while ~~and~~ extrinsic motivation increases over time (Edmunds & Bauserman, 2006; Guthrie & Wigfield, 2000). Children's goals become more associated with extrinsic factors like rewards or teacher and peer feedback, and as a result, focus more closely on performance indicators, such as grades and responses from other students. Guthrie and Wigfield discuss two possible explanations for

why this change in motivation occurs. One explanation focuses on children's increasing capacity to understand their own performance. For some children, this situation leads to the realization they are not as proficient at reading as other children, which reduces their motivation. The authors also posit that instructional practices that promote social comparison and competition between and among children can lead to a decrease in intrinsic motivation.

Research such as that reported by Park (2011) suggests that students who consider themselves to be good readers and who see reading as a purposeful task achieve greater success in reading as compared with their peers who have a lower perception or self-concept as readers. Medford and McGeown (2012) note that continual discouragement with reading tasks eventually will lead students to develop a lower self-concept and level of motivation related to reading. On the other hand, students who continue to experience success with most reading tasks are more likely to have a positive self-concept and tend to have a higher level of motivation. Individuals' self-worth, both emotionally and cognitively, can fluctuate based upon their performance with particular tasks (Smiley, Coulson, Greene, & Bono, 2010).

In addition to the considerations discussed above, children's level of "performance concern," or feelings of adequacy and task competence in front of others, can impact their willingness to try to complete tasks to a great extent. Performance concern can be influenced by external factors, such as other students, teachers, or family members, and students' confidence in their ability. High levels of performance concern may limit cognitive development and opportunities for deeper learning and are based on the individual's fear of incompetence (Smiley et al., 2010). Results of a study reported by Smiley et al. also demonstrated that performance concern can influence the strategies used when problem solving. Students with a low level of performance concern persevered even after repeated failure or corrective feedback from

observers. However, those with higher levels of performance concern did not were not as resilient. Smiley et al. notes that they seemed very aware of their repeated failure and did not solve the problem at hand as quickly as those who were less concerned.

Research such as that reported by Kaniuka (2010) suggests reading motivation has a strong relationship to self-efficacy and efficacy can be used to predict academic performance. Self-efficacy can be defined as “beliefs a person has about his or her capabilities to learn or perform behaviors at designated levels” (Guthrie, Wigfield, Tonks, Humenick, Littles, Hoa, 2007, p. 34). Students’ beliefs about their ability can affect their attitude toward reading to a great extent. Maintaining and developing self-efficacy involves an individual's self-evaluation of his or her of capabilities and progress with performance tasks. Guthrie maintains that individuals with positive self-evaluations have a high sense of self-efficacy toward learning and are motivated to learn and put forth the necessary effort and work. Particularly in matters related to reading, students who believe they are “competent and efficacious” in reading are more likely to engage in reading tasks. Guthrie and Wigfield (1997) report that self-efficacy is one of the strongest predictors of reading achievement.

The Impact of a Growth Mindset on Reading Motivation

Reading skills are built and strengthened through interest and personal investment (Guthrie et al., 2007). While motivation and personality traits tend to be stable, it may be possible to help and encourage children to apply their personality characteristics differently and in the direction of motivation (Medford & McGeown, 2012). Medford and McGeown suggest increasing students’ “intellectual curiosity” to increase their willingness to attempt activities in which they are encouraged to explore and apply curiosity (p.791). To do so would entail creating structures and lessons in which asking questions and inquiry are promoted. Having the

knowledge and understanding of a student's personality traits and motivation allows teachers to make instructional decisions that will help students think about reading more positively and as an attainable goal.

Boosting motivation also may be possible through changing the child's perception of his or her reading ability. To do so, students' ways of thinking about ability would need to be re-molded through teacher instruction and interactions with reading activities (Medford & McGeown, 2012). The finding that student motivation can be affected by teacher-student interactions reinforces the theory supporting a growth mindset. A growth mindset has implications for enhancing students' reading performance and encouraging students to accept the concept that skills and intellect are malleable.

Building a Growth Mindset to Promote Motivation

As discussed above, researchers such as Logan et al. (2011) found that intrinsic motivation plays a large role in reading success and that specific interventions can be applied to increase and maintain motivation. To increase motivation, interventions must be enjoyable and engaging, as well as purposeful, to promote a desire to read (Medford & McGeown, 2012). This culture of learning can take place if an environment is created in which students are encouraged to exhibit a growth mindset.

To begin to modify a student's mindset, teachers first must identify students who display a lack of motivation and exhibit high levels of performance concern or low self-worth. Smiley et al. (2010) suggest that identifying these students could be as simple as presenting tasks as an "easy success experience" or "an opportunity to learn something new but also make a lot of mistakes" (p. 796) and noting which tasks they select. Students who choose the former are more likely to have a fixed mindset compared to students who choose an opportunity to learn

something new. After establishing mindsets of students, it is then necessary for teachers to concentrate praise and feedback on student growth and effort rather than intelligence and talent (Dweck, 2007). In addition, teachers need to evaluate each student's performance as an opportunity to determine where to focus instruction rather than as a reflection of the student's fixed ability level (Smiley et al., 2010). This response requires strategic assessment and thoughtful responses from teachers.

Modifying a child's mindset is not as simple as talking to him or her about the two types of mindsets. Rather, it requires modeling and questioning to promote taking steps in the direction of a growth mindset (Dweck, 2007). Dweck suggests using some of the following phrases, questions, and feedback statements to promote a growth mindset. :

“What did you learn? Did you make any mistakes that helped you learn?” (p. 235) and
“I liked the effort you put in, but let's work together some more and figure out what it is you don't understand” (p. 178).

With praise focused on growth and effort, children are recognized as a whole rather than simply focusing on their answers or degrees of success. Their efforts, strategies, and learning process are celebrated and analyzed rather than just their performance or ability (Kamins & Dweck, 1999). This emphasis provides children the opportunity to develop mastery-oriented problem-solving approaches and boosts their self-confidence.

In relation to reading, an instructional strategy to enhance growth mindsets and persistence in problem solving is promoting autonomy. Researchers such as Guthrie and Wigfield (2000) found that giving autonomy (or student choice) in the classroom is one instructional strategy that can increase student motivation and reading success. These researchers conclude that if students recognize that their teachers respect them enough to provide them with

choices in their learning and reading, students increase their effort and commitment to the task. They are more personally invested and have a greater sense of responsibility for learning.

Choice can be used as a motivator by providing students with selections on how they want to learn, what they want to learn, and how they want their work to be evaluated (Turner, 1995). A growth mindset can be instilled through carefully planned conversations between students and teachers around the process and evaluation of reading, which might include some of the suggested phrases from Dweck (2007):

“I like the way you tried all kinds of strategies...which one do you think worked best and why?” and

“Everyone learns in a different way. Let’s keep trying to find the way that works for you.” (p.178)

The conversations must be growth-oriented and focused on finding an appropriate strategy for the reading task on hand, rather than students’ reading attributes and ability (Dweck, 2007). In addition, when a task is purposeful or promotes autonomy, students already are interested and engaged in the self-chosen task, thus increasing their receptiveness to feedback and discussion about their use of strategies.

Teacher “think alouds” and explicit modeling are other instructional strategies that can promote a growth mindset in readers. There are forms of teacher modeling that allows students to listen to and watch instructors approach the reading task (Gambrell, 1996). A thoughtful think-aloud can be a powerful model for students as they watch and listen to teachers as they manipulate or break down the text. To enhance the students’ learning and growth mindset, a discussion should be held that focuses on the steps that were taken to complete or try the task and why they were taken. The teacher also should emphasize the steps taken when mistakes are made

or failure occurs. In this way, the teacher will instill a growth-oriented way of thinking during challenging tasks (Dweck, 2007).

Summary

Motivation is an essential component of reading success and engagement for students. As students get older and become more aware of external performance indicators, their motivation to learn may begin to decline. Educators must understand how the messages and praise they provide affect students' motivation and achievement so teachers can instill and foster a mindset in which students react adaptively to failure and respond to feedback with strategies that help them to become self-sufficient learners and readers.

CHAPTER III

METHODS

Design

This study used a quasi- experimental pre-test-post-test design to determine the effect of an intervention intended to foster a growth-oriented mindset on the reading motivation of a group of students with fixed mindsets. A pre-test was administered to determine and categorize students' mindset as fixed or growth. A second test also was administered to assess reading motivation, and its results were compared for students categorized as having fixed versus growth mindsets. After the intervention, which was administered to a group of students with fixed mindsets, the same tests of reading motivation and mindset were administered to the treatment group to see if those results differed from their pretest results. In addition, participants initially identified as having a growth mindset were re-tested to see if their results changed over the course of the study or differed from those of the treatment group after the intervention.

Participants

The participants within the study were a convenience sample of 20 third grade students at a public charter school in Glen Burnie, MD. The sample consisted of 11 females and nine males who were ages eight and nine. The sample is multicultural and composed of Caucasian, Hispanic, and African American students. Within this group, five of the students were reading below, nine students were-reading at, and six students were reading above a third grade reading level. Two of the participants had an Individualized Education Plan (IEP) for behavioral and writing concerns. One participant had a 504 Plan for vision concerns. All accommodations needed by these three participants were made for testing purposes.

Instruments

The Motivation to Read Profile (MRP) was designed based on research related to motivation theory and after examining other instruments used to measure motivation. The MRP consists of two parts, the Reading Survey and the Conversational Interview. For the purpose of this study, only the Reading Survey was administered. (A copy is located in Appendix A). The MRP has been evaluated for internal consistency reliability of two sub-sections, self-concept= .75 and value = .82. To assess validity, the results of the MRP survey were compared to reading achievement and revealed a positive correlation which supported previous research and findings about the relationship between motivation and achievement. The survey consists of a total of 20 multiple choice questions. Ten of the questions assess self-concept as a reader and 10 assess the value of reading. The survey was administered and read aloud to the entire group of 20 students before and after the intervention was provided to the treatment group. The questions were categorized by even and odd numbers. Questions with even item numbers evaluated the participants' value of reading and questions with odd item numbers assessed their self-concept as readers. Each question yielded a score of one to four, making the total possible range of points on the MRP 20 to 80. For scoring purposes, items 1, 4, 5, 7, 8, 10,11,15,18, 20 were re-coded on a scale in which 1= 4, 2=3, 3=2, 4=1. Higher scores on the two subscales indicated the respondents had a more positive self-concept in reading or valued reading more than respondents with lower scores (Gambrell, et al., 1996).

To assess the participants' mindsets and categorize them as fixed or growth, a survey based on the Mindset Assessment Tool was selected (Dweck, 1999). The survey based on the MAT is located in Appendix B. The modified Mindset Assessment Tool survey (MAT) was administered to the entire sample of 20 students before and after the intervention to allow

establishment of the treatment group, compare reading motivation scores of the students with growth and fixed mindsets, and to assess changes in mindset due to the intervention (for the treatment group) versus maturation (for the group initially identified initially as having a growth mindset). The *MAT survey* contained eight items focused on intelligence as it relates to completing or attempting school work. For example, an item in this category might state “I like school work that I’ll learn from even if I make mistakes”. Responses to each item were measured on a Likert scale with responses ranging from one (strongly disagree) to six (strongly agree). MAT item numbers 1,3,5, and 7 were scored as is, 6=6, 5=5, and 4=4, 3=3, 2=3, 1=1 whereas item numbers 2,4,6, and 8 were scored as 6=1, 5=2, 4=3, 3=4, 2=5, 1=6. Possible total scores on the MAT ranged from 8 to 48. Scores that fell in the range of 8-28 suggested a fixed mindset and scores ranging from 29-48 suggested a growth mindset. The test was administered in a whole group setting and read aloud by the examiner.

Regarding its technical characteristics, the MAT that was administered in this study was modified from an earlier version and derived from Mindset Works: Brainology (2013). Reliability and validity test results were not available for the specific assessment given. An earlier version of the MAT was evaluated by a team of researchers, for which one measure of test-retest reliability was .80. A concern noted about validity by previous researchers was that the wording of some items on earlier MAT surveys influenced respondents’ selections by making some responses more compelling than others (Dweck, Chiu & Hong, 1995).

Procedure

The first instrument administered was the modified Mind Assessment Tool. The MAT was administered to all 20 potential study participants. Although the MAT was read aloud, participants were given as much time as they needed to complete the eight- question survey.

The teacher collected and scored the surveys. Once the participants' MAT scores were computed, students in the sample were categorized into two groups as having either fixed or growth mindsets based on their MAT scores. Two days later, the Motivation to Read profile (MRP) was administered in the same fashion to all 20 participants. After they completed the MRP, the reading motivation (MRP) scores were examined and compared for both groups, fixed and growth mindsets.

Participants with a growth mindset became the "control" group, and those who expressed a fixed mindset were assigned to the "treatment" group. The treatment group participated in a 12 day growth-oriented intervention. The intervention took place for 20 minutes per day. The first two days consisted of building background knowledge on the two types of mindset through explicit teaching about the two mindsets. The direct instruction and lesson structure were derived from *Mindset Works: Brainology* (2013). Students spent the *following 10* sessions working on different puzzles and reading activities designed to promote reading motivation (See sample lesson in Appendix C). Student and teacher interactions included systematic use of growth-oriented language such as "That's an interesting strategy", "What step did you take to get the answer?", "Let's think about why this did not work" and "What can you try next?" (Dweck, 2010).

For each student, these comments were tallied when they were used during a lesson to ensure the teacher used at least two such comments per lesson per student. Each student's comments reflecting growth or fixed mindsets also were tallied.

After the 12 day intervention, the Motivation to Read Profile and Mindset Assessment tool were re-administered to both groups (fixed and growth) to determine whether the treatment group's mindset or either group's scores motivation to read had changed

significantly or whether or not they were similar to one another.

CHAPTER IV

This study was designed to explore the relationship between students' type of mindset and their reading motivation. Additionally, it explored whether students' mindset can be influenced with purposeful teaching strategies.

RESULTS

As noted in Chapter III, students with Mindset Assessment Tool (MAT) scores from 8-28 on the initial administration of the MAT were categorized as having fixed mindsets and assigned to the treatment group, which contained six students. Those with scores of 29 and up were categorized as having growth mindsets and were assigned to the control group which contained 14 students. MAT and Motivation to Read Profile (MRP) scores were collected and subscale and total scores were averaged for each group. Listed in Table 1 are descriptive statistics for the pre and post MAT results disaggregated by group.

Table 1
Descriptive Statistics for Pre and Post-intervention MAT results by Group (Fixed or Growth)

Group		N	Mean	Minimum	Maximum	Std. Deviation
FIXED (Treatment)	Pre MAT total	6	26.00	20	28	3.162
	Post MAT total	6	28.17	18	35	6.432
GROWTH (Control)	Pre MAT total	14	35.21	30	44	4.003
	Post MAT total	14	35.00	23	47	5.987

Comparisons of the treatment (initially fixed mindset) and control (initially growth mindset) groups' mean pre-intervention scores on the MRP were made to determine whether the students' initial feelings about reading differed in relation to or possibly due to their mindset. Descriptive statistics and the results of T-tests for independent samples comparing the two

groups' mean pre-intervention MRP self-concept, value of reading and total scores follow in Tables 2 and 3, respectively.

Table 2
Descriptive Statistics for Pre-intervention MRP by Group

PRE MRP SCORE	Group/Mindset	N	Mean	Std. Deviation	Std. Error Mean
SELF CONCEPT	Fixed	6	28.333	3.077	1.256
	Growth	14	27.929	2.973	0.795
VALUE OF READING	Fixed	6	26.833	6.338	2.587
	Growth	14	30.571	3.345	0.894
TOTAL	Fixed	6	55.167	7.441	3.038
	Growth	14	58.500	5.801	1.550

Table 3
t-test for Independent Samples Comparing Pre-intervention MRP scores across groups

PRE MRP SCORE	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
SELF CONCEPT	.276	18	.785	.405	1.465	-2.673	3.483
VALUE OF READING	-1.747	18	.098	-3.738	2.140	-8.234	.758
TOTAL	-1.084	18	.292	-3.333	3.074	-9.791	3.125

*Equal variances assumed

These results indicated that neither of the mean MRP subscale scores nor the MRP total scores differed significantly across the two groups at the beginning of the study. Hence, null hypothesis 1, which stated that there would be no difference between the pre-intervention reading motivation of students who demonstrated growth versus fixed mindsets was retained.

The same statistics and tests were calculated and run on the post-intervention MRP results to determine whether the intervention impacted the motivation to read and feelings about reading of students who were initially categorized as fixed or whether time and the regular instruction changed the motivation and feelings of the students who were initially categorized as growth in mindset. Descriptive statistics and t-test results follow in Tables 4 and 5. These analyses tested null hypothesis 3 (chapter 1), which posited that there would be no difference between the post-intervention motivation to read scores of students who initially demonstrated a fixed mindset and received a strategic intervention to promote growth mindsets and those of students who initially demonstrated a growth mindset and did not receive the intervention. Based on the results in Table 5, this hypothesis was retained, as the post-intervention MRP sub and total scores did not differ significantly across the two groups.

Table 4

Descriptive Statistics for Post-intervention MRP by Group

POST MRP SCORE	Group	N	Mean	Std. Deviation	Std. Error Mean
SELF CONCEPT	Fixed	6	28.667	3.724	1.520
	Growth	14	26.929	4.714	1.260
VALUE OF READING	Fixed	6	23.833	6.306	2.574
	Growth	14	28.714	5.837	1.560
TOTAL	Fixed	6	52.500	7.120	2.907
	Growth	14	55.786	9.823	2.625

Table 5

t-test for Independent Samples comparing Post-intervention MRP scores across groups

POST MRP SCORE	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
SELF CONCEPT	.798	18	.435	1.738	2.177	-2.834	6.312
VALUE OF READING	-1.675	18	.111	-4.881	2.913	-11.002	1.240
TOTAL	-.736	18	.471	-3.286	4.466	-12.668	6.097

*Equal variances assumed

Data also were collected and compared to determine whether the mindset of students in either group changed over the course of the study. Listed in Table 6 are data comparing the mean total MAT scores of the fixed and growth groups before and after the intervention.

Table 6

Descriptive Statistics of Change in MAT scores by Group

	Group	N	Mean	Range	Std. Deviation	Std. Error Mean
CHANGE IN MAT SCORES	FIXED	6	2.167	-2-7	3.817	1.558
	GROWTH	14	-.214	-11-5	4.191	1.120

Table 6 shows that the mindset score increased on average 2.167 points for the treatment group and decreased on average .214 points for the control group. A comparison of the mean changes in MAT scores for the two groups was made, again using a t-test of independent

samples. Results (shown in Table 7) indicated that mean sizes of the two groups' changes in mindset, reflected by MAT scores, were not significantly different ($t=1.193$, $p<.248$).

Table 7
Results of t-test for Equality of Means Comparing
Changes in MAT scores for the Fixed and Growth Groups

	t-test for Equality of Means*						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
CHANGE IN MAT SCORE	1.193	18	.248	2.38095	1.99600	-1.81248	6.57438

*equal variances assumed

Finally, null hypothesis 2 stated that the intervention would not significantly impact the mindset of students initially categorized as “fixed”. To test this, the mean pre and post-intervention MAT scores of the six students in the treatment group (who were initially categorized as fixed with MAT scores of 28 or less and who received the intervention) were compared using a paired-samples t-test. The procedure computed the differences between pre and post intervention MAT scores for each student and tested whether the average differed significantly from 0. The test was also run to see if the control (“growth”) group’s MAT scores changed significantly due to chance or some other uncontrolled influence. Results follow in Table 8 and indicated that neither group’s mean MAT scores changed significantly, so null hypothesis 2 was also retained. As can be seen from the ranges presented in Table 6, however, there was some variation among individuals’ changes in MAT scores.

Table 8
Paired Samples t-test comparing pre and post MAT scores by Group

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
FIXED	-2.167	3.817	1.558	-6.172	1.839	-1.391	5	.223
GROWTH	.214	4.191	1.120	-2.206	2.634	.191	13	.851

CHAPTER V

DISCUSSION

This study was designed to explore the relationship between students' type of mindset and their reading motivation. Additionally, it explored whether students' mindset can be influenced with purposeful teaching strategies. Analysis of the data from the study revealed that there was no significant difference between the reading motivation scores for the fixed mindset group and the growth mindset group at the start or end of the study. In addition, this study found the experimental group's mindset (fixed) was not significantly influenced with a small-group intervention infused with purposeful teaching strategies and language to promote growth mindsets. Based upon these findings, the three null hypotheses tested in this study were retained.

Implications of Mindset Instruction for Reading Motivation

The small group intervention during which the researcher used growth-oriented language and instructional strategies to promote a growth mindset did not appear to have a significant impact on the experimental group's mindset (fixed). Although these findings do not support previous research using similar interventions, they do not negate the likelihood that growth orientations promote learning and the findings merit further study to learn how to promote growth orientations. These findings do support Dweck's (2007) suggestions from research which indicate that cultivating a growth mindset within children is dependent on a dual approach from the language received both at home and school. By sharing this information with families and school educators, the school and families can work to implement strategies and use growth oriented language at home and school to impact children's mindsets. To do this well, appropriate training for educators and families should be conducted to ensure praise focuses on work ethic and application of strategies (Mueller & Dweck, 1998).

In addition, the findings suggesting that reading motivation is not solely dependent on students' mindset reflect important points about which educators should be aware. These findings support previous research which indicates that reading motivation is multifaceted and influenced by many factors, such as classroom environment, student and teacher interest, access to materials, and real-world connections (Gambrell, 1996).

Limitations

A threat to validity of this study and its results may include the familiarity between the researcher (classroom teacher) and the student participants. At the point at which this research was conducted, the researcher and participants had been working together for seven months. A relationship and a common language already were established within the classroom. The students may have reacted differently to the interventions and the language used had they been provided by a novel researcher instead of the teacher with whom they were familiar and whose behavior may have been perceived as altered.

Another threat to validity within the study was time. Time was a limitation for this study because the researcher was able to meet with the experimental group only twelve times for twenty minutes a day. In addition, the intervention was disrupted by school closures and state standardized testing, which precluded the researcher and experimental group from being able to meet consistently. The researcher's observations suggested some students experienced fatigue and a lack of interest in the intervention process. These feelings were reflected in participants' comments such as, "Why do we have to do this?" or "How much longer?" Time and consistency affected the participants' level of engagement in and enthusiasm for the tasks and daily interventions.

Connections to Prior Research

Although the findings from this study suggested that this small group intervention did not significantly affect students' mindsets, they did support prior research in which Dweck (2007) describes cultivating a growth mindset as a process in which growth oriented behavior is modeled and promoted through strategic questioning and language. The brief intervention conducted with the experimental group was only an initial step towards increasing awareness of the concept of mindsets and to encourage students' positive attitudes and approaches to learning which are reflected in a growth mindset.

The notes and observational data collected regarding the treatment group students' responses and resilience supported Logan et al.'s (2011) findings that students without a growth oriented mindset may become disinterested and resentful when problem solving does not come easily to them. In addition, Smiley's research found that students' performance concern can influence the strategies used and their willingness to attempt to solve problems (2010). Students with a fixed mindset, like those in the intervention group, are more likely to be concerned with their performance, especially with difficult or new tasks. Although over time, students seemed to appear more comfortable with the style of the lessons and continuous problem solving, students were influenced by feedback on the task. It was noted that students were much more hesitant to try strategies after receiving corrective feedback or experiencing repeated failure at the beginning of the intervention. This type of behavior and heightened awareness of repeated failure is typical of students with a high level of performance concern and interventions to foster growth mindsets might, over time, promote greater risk-taking and consequent learning.

Recommendations for Future Studies

Future research regarding the impact of growth-oriented language on mindset should extend the time for the intervention period and increase the number and types of subjects to whom the interventions are taught. The extension of time will allow the interventionist to begin working on developing a growth mindset and build a closer relationship with participants which could result in a greater influence on students' mindset. With an extended period of time, the research could model growth-oriented approaches continuously and hopefully, students would become more comfortable with corrective feedback. This modification also would allow participants to evaluate their problem-solving methods and their results more effectively. Student-teacher conversations about strategy and approach need to occur regularly and relate to a variety of experiences for them to significantly impact students' mindsets and, possibly, consequent motivation and effort.

Although this study focused on reading motivation, future research might benefit from using and evaluating the effects of growth-oriented language and questioning on motivation and achievement in a variety of academic and non-academic subjects. Much of the intervention was reading intensive, which may have limited the influence of the intervention on the more general post-assessment MAT results for the experimental group. By using growth-oriented language across more subjects, growth-oriented ways of thinking or approaches to problem solving would not seem applicable only to reading and may have a greater effect on general learning.

Conclusion

The purpose of this study was to determine the relationship between students' type of mindset and their reading motivation. Additionally, it explored whether students' mindset could

be influenced with purposeful teaching strategies. Although it was found that this brief intervention was not sufficient to significantly influence students' mindsets or their motivation toward reading, the findings serve to remind educators that the foundations and growth of the two constructs are based on processes and are influenced by multiple intrinsic and external factors. This study also reminds educators and families that developing mindsets is a process that takes place in a variety of environments both in and out of the classroom.

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Appendix A

Motivation to Read Profile

Name _____

Date _____

1. My friends think I am _____.
 - A. a very good reader
 - B. a good reader
 - C. an okay reader
 - D. a poor reader

2. Reading a book is something I like to do.
 - A. Never
 - B. Not very often
 - C. Sometimes
 - D. Often

3. I read _____.
 - A. not as well as my friends
 - B. about the same as my friends
 - C. a little better than my friends
 - D. a lot better than my friends

4. My best friends think reading is _____.
 - A. really fun
 - B. fun
 - C. okay to do
 - D. no fun at all

5. When I come to a word I don't know, I can _____.
 - A. always figure it out
 - B. sometimes figure it out
 - C. almost never figure it out
 - D. never figure it out

6. I tell my friends about good books I read.
 - A. Never
 - B. Almost never
 - C. Sometimes
 - D. A lot

7. When I am reading by myself, I understand _____.
 - A. almost everything I read
 - B. some of what I read

- C. almost none of what I read
 - D. none of what I read
8. People who read a lot are _____.
- A. very interesting
 - B. interesting
 - C. not very interesting
 - D. boring
9. I am _____.
- A. a poor reader
 - B. an okay reader
 - C. a good reader
 - D. a very good reader
10. I think libraries are _____.
- A. a great place to spend time
 - B. an interesting place to spend time
 - C. an okay place to spend time
 - D. a boring place to spend time
11. I worry about what other kids think about my reading.
- A. every day
 - B. almost every day
 - C. once in a while
 - D. never
12. Knowing how to read well is _____.
- A. not very important
 - B. sort of important
 - C. important
 - D. very important
13. When my teacher asks me a question about what I have read, I _____.
- A. can never think of an answer
 - B. have trouble thinking of an answer
 - C. sometimes think of an answer
 - D. always think of an answer
14. I think reading is _____.
- A. a boring way to spend time
 - B. an okay way to spend time
 - C. an interesting way to spend time
 - D. a great way to spend time
15. Reading is _____.
- A. very easy for me
 - B. kind of easy for me
 - C. kind of hard for me
 - D. very hard for me

16. When I grow up I will spend _____.
- A. none of my time reading
 - B. very little of my time reading
 - C. some of my time reading
 - D. a lot of my time reading
17. When I am in a group talking about stories, I _____.
- A. almost never talk about my ideas
 - B. sometimes I talk about my ideas
 - C. almost always talk about my ideas
 - D. always talk about my ideas
18. I would like for my teacher to read books out loud to the class _____.
- A. every day
 - B. almost every day
 - C. once in a while
 - D. never
19. When I read out loud I am a _____.
- A. poor reader
 - B. okay reader
 - C. good reader
 - D. very good reader
20. When someone gives me a book for a present, I feel _____.
- A. very happy
 - B. sort of happy
 - C. sort of unhappy
 - D. unhappy

Appendix B

Modified MAT Survey

Name: _____

Read each sentence below and then circle the one number that shows how much you agree with it. There are not right or wrong answers.

1. No matter how much intelligence you have, you can always change it a good amount.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

2. You can learn new things, but you cannot really change your basic amount of intelligence.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

3. I like school work best when it makes me think hard.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

4. I like school work best when I can do it really well without too much trouble.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

5. I like school work that I'll learn from even if I make a lot of mistakes.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

6. I like school work best when I can do it perfectly without any mistakes.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

7. When something is hard, it just makes me want to work more on it, not less.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

8. To tell the truth, when I work hard at my schoolwork, it makes me feel like I'm not very smart.

1	2	3	4	5	6
Strongly Disagree	Disagree	Mostly disagree	Mostly Agree	Agree	Strongly Agree

Total score: _____

Appendix C

Lesson

Time: 20 minutes

Introduction: Today's learning target will give everyone an opportunity to stretch. Today I want you to challenge yourself.

Learning Target: I can persevere with a reading challenge.

Warm up:

Students will work on solving the rebus puzzle:

I RIGHT I

answer: right between the eyes

QTPI

answer: cutie pie

Suggested Language: I want you to push yourselves to tackle this puzzle.

Introduce reading activity:

Suggested language: “This is very challenging reading material. I am not going to hold you accountable for understanding all of it right away, but I want you to give it a first try.” “I know that you have the ability to do this, so I have set the bar high. “ “This will be a challenging concept, but all of us can reach the goal if we persevere.”

Fountas and Pinnell Guided Reading:

- Students will read non-fiction text on or above reading level
- As students read I will monitor and listen to them read- looking for accuracy, fluency, self-correction, misconceptions
- As a whole group, students will discuss the text and answer “right there” and “thinking beyond” questions provided by Fountas and Pinnell

Reflection/Debrief:

- Were you persistent in solving tricky words?

- Did you make any mistakes when reading? What did it feel like?
- How did it feel after you persevered?
- How did you feel before you started this activity?
- What were you saying to yourself?
- What did you feel and say to yourself during the activity?