

The Impact of Growth Mindset on Student Self-Efficacy

By Maura Keenan

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Abstract

The purpose of this action research was to identify whether instruction that focuses on establishing a growth mindset has an impact on second-grade students' academic self-efficacy. Previous research provided purpose for this study, as it provided evidence that students with heightened self-efficacy would experience academic benefits. This research was conducted through a pre-experimental study with a pretest, posttest single group design and convenience sampling. The hypothesis of this study suggested that the implementation of the growth mindset approach would have no impact on second-grade students' academic self-efficacy. This null hypothesis was rejected, as results showed a significant difference in self-efficacy at posttest. Research in this area should continue in order to determine whether there is an opportunity to shape students' self-efficacy in order to yield more positive growth in these learners.

CHAPTER I

INTRODUCTION

The purpose of this action research is to identify whether instruction that focuses on establishing a growth mindset has an impact on students' academic self-efficacy. Self-efficacy is identified as someone's belief about his or her capabilities in a possible situation. Albert Bandura (as cited in Walia, 2017) coined the term self-efficacy through his research that emphasized that self-efficacy is considered an individual's belief that he or she possesses the competency to accomplish a desired goal successfully. This also suggests that self-efficacy can be shaped or changed. Self-efficacy can be defined in the field of education as an individual's judgment of his or her learning and achievement skills. The self-efficacy of a student is relevant to his or her educator because self-efficacy can impact the way an individual approaches goals, tasks, and challenges (Saeid & Eslaminejad, 2017). Therefore, a child's self-efficacy can carry over into his or her learning behaviors, which may impact future academic achievement.

Growth mindset is based on a theory that views intelligence as an attribute that can be developed over time. Growth mindset supports the concept that an individual's intelligence can grow and increase in increments (Orosz, Péter-Szarka, Bóthe, Tóth-Király, & Berger, 2017). In contrast, the opposing view, fixed mindset, sees intelligence as unalterable or static. Students with a fixed mindset believe their academic performance is a measurement of their intellect and ability that they naturally acquired (Dweck & Dweck, 2015). Individuals classified with a fixed mindset believe intelligence is a limited, stable characteristic (Orosz et al., 2017). However, children with a growth mindset may interpret their academic performance as a result of their effort and experience. The mindset of students influences the way they perceive their academic

world. Students with a growth mindset believe their abilities can be improved with practice, so they are in control of their own learning (Stec, 2015).

Although this study focuses its research on a small academic setting by examining data provided by second-grade students in one classroom, implications of the research can be widespread as individuals may apply growth mindset to their competencies in other areas of life, which could reflect their level of self-efficacy. The researcher is an educator who works with students who represent a range of academic ability levels. As such, previous inquiry into this area of study seems to support the need to conduct further research to examine ways for educators to impact students' self-efficacy. Students' self-efficacy can be predictive of their academic, social, and emotional achievement. Therefore, it is important for educators to determine whether there is an opportunity to shape students' self-efficacy in order to yield more positive growth in their learners.

Statement of Problem

Self-efficacy is a valuable indicator of student academic achievement. This research sought to understand the impact of the implementation of the growth mindset approach on second-grade students' academic self-efficacy.

Hypothesis

The implementation of the growth mindset approach will have no impact on second-grade students' academic self-efficacy.

Operational Definitions

The independent variable in this study is the implementation of the growth mindset approach. The growth mindset approach includes instructional activities that build on the concept that one can develop intelligence by putting forth effort as opposed to a fixed mindset

that holds the belief that intelligence is static and cannot be changed by one's actions. The independent variable of the growth mindset approach can be operationally defined as an instructional practice that fosters one's belief that intelligence can be developed and increased.

The dependent variable that will be measured in the study is the second-grade students' academic self-efficacy. The concept of self-efficacy was originally introduced by theorist Albert Bandura. One way it may be operationally defined is as an individual's belief in his or her ability to complete a future task or solve a future problem. Another way to more specifically define self-efficacy for the purposes of this study is as a student's belief in his or her ability to complete an academic task independently and successfully.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature will discuss the growth mindset. It will also review the importance of self-efficacy and the role it plays in an academic setting. Current teaching practices founded on self-efficacy and growth mindset concepts will be shared.

The Importance of Student Self-Efficacy

Self-efficacy is defined as an individual's belief about his or her competence in a possible situation. Bandura's (as cited in Walia, 2017) original research stated, "self-efficacy beliefs are rooted in the core belief that one has the power to produce desired effects," (p. 197). This also suggests that self-efficacy is malleable. Self-efficacy can be defined in the academic field as an individual's judgment for his or her learning and achievement skills. The resistance or willingness that he or she demonstrates when encountering a difficult task is a measure of his or her self-efficacy (Kaya & Bozdog, 2016). Self-efficacy can be shaped by a student's previous performance or experience with a task. The student's self-efficacy can transform his or her skills and capacity into behavior by allowing the individual to recognize those skills and capacities. Self-efficacy can impact the way an individual approaches goals, tasks, and challenges (Saeid & Eslaminejad, 2017).

Previous research findings display self-efficacy's relationship to students' performance or growth in other areas of a student's school day. Self-efficacy has been found to be a predictor of academic achievement. A positive relationship between academic self-efficacy perception and achievement has been demonstrated (Kaya & Bozdog, 2016). With an increase in self-belief, the individual's level of learning and behavior can also improve. Teachers can have a significant effect on students' self-efficacy, happiness, and behavior in class (Blazar & Kraft, 2017.) This

provides purpose for teachers to become more involved with approaches that can impact a student's self-efficacy.

Students with higher self-efficacy will persevere on difficult problems or even unsolvable problems longer than students with lower self-efficacy (Walia, 2017.) Students will gain more from learning experiences and achieve more success when approaching challenging tasks if they have a higher level of perseverance. Students with higher self-efficacy will continue to persevere and remain motivated when approaching difficult tasks (Saeid & Eslaminejad, 2017).

There is a high association between self-efficacy and optimism as well as self-regulation (Walia, 2017). Individuals with higher self-efficacy have a higher sense of purpose in life. These findings illustrate the relationship between students' self-efficacy and other learning behaviors that impact their academic achievement and behavior in the classroom. Students' self-efficacy can influence learners' goal pursuits (Yilmaz Soylu et al., 2017). There is a relationship between academic self-efficacy, self-directed learning readiness, and academic motivation (Saeid & Eslaminejad, 2017). Previous research findings support that students' self-efficacy is related to much of their performance and behavior in class, which provides motivation for teachers to implement approaches that foster a higher self-efficacy in order to help students be successful and content.

The Growth Mindset Approach

Growth mindset is based on an implicit theory or core assumption about a personal quality while the fixed mindset sees intelligence as unchangeable or static. Students with a fixed mindset believe their academic performance is a measurement of their innate intellect and ability (Dweck & Dweck, 2015). Fixed mindset may also be known as the entity theory, as individuals assume intelligence is a limited, stable characteristic (Orosz et al., 2017). Meanwhile, growth

mindset views intelligence as an attribute that can be developed over time. Children with a growth mindset may perceive their academic performance as a result of their effort and/or experience. Growth mindset may also be considered a part of the incremental theory, as individuals believe intelligence can develop in increments.

The mindset of students influences the way they perceive their academic world. Students with growth mindset believe their abilities can be improved with practice, so they are in control of their own learning (Stec, 2015). Students with growth mindset acquire a mastery orientation because they value learning, so they focus on deepening their understanding of concepts and focus on self-improvement. Researchers have found significant interactions between students with mastery goals and higher levels of self-efficacy (Yilmaz Soylu et al., 2017). Students with a fixed mindset demonstrate a performance orientation, as they pursue goals in order to reaffirm their competency. Therefore, students with this type of goal orientation will be more likely to engage in activities that they are confident in, whereas they will avoid activities that they may not be guaranteed to be successful with. These students will be less likely to engage in challenging tasks that could damage their self-concept. Without approaching more difficult tasks in attempt to avoid failure, these students with fixed mindset are at risk for also not learning from these tasks.

Some types of instruction that incorporate the growth mindset approach have been implemented in past studies to produce findings. One example is of an instructor who used the “Brainpoints” game to award effort towards difficult tasks, which positively reinforces the growth mindset (Dweck & Dweck, 2015). Educators who use this type of growth mindset approach also use the keyword “yet” frequently when a student feels as if they are not capable of something (Stec, 2015). This instills the concept that the student’s ability can be improved with

effort. Educators with this mindset focus on progress as opposed to the result. Students are recognized and praised on effort as opposed to mastery. Students are also encouraged to be involved in establishing improvement goals for themselves. Growth mindset could be considered when using a form of positive education. Positive education develops creativity, fosters a positive class rapport, increases life satisfaction, and establishes civic citizenship (Zeng, Hou, & Peng, 2016).

Current Practices

Growth mindset is currently being used as an intervention or instructional tool. When implemented, the teacher must also have growth mindset in order for the tool to be successful (Dweck & Dweck, 2015). The beliefs that teachers hold themselves, the feedback they provide, and the time they allow for students to complete an assignment impact students' mindset towards learning (Stec, 2015.) However, the implementation does not stop at the teacher. A school growth mindset culture increases teachers' skills in order to support all students' growth (Hanson, Ruff, & Bangert, 2016).

Collaborative planning, shared leadership, and open communication allows for a school to foster growth mindset within teachers. School mindset interventions are used to instill a belief in the faculty that their school can help all students learn and grow (Hanson et al., 2016). Teachers with growth mindset are more open to new information, had an increased ability to resolve a conflict, displayed more tolerance, chose learning goals over performance goals, showed less stereotype behaviors, and demonstrated persistence and resilience when faced with challenges.

Previous research findings have described a relationship between the use of the growth mindset approach and students' performance or growth in other areas of the school day. High

levels of growth mindset in students predict higher psychological well-being and school engagement (Zeng et al., 2016). Growth mindset can lead to school achievement. Changing students' theory of fixed mindset to growth mindset can impact their academic behaviors (i.e. enjoyment in academic activities, engagement, and grades) over time.

Growth mindset interventions can increase the resilience level of students so students approach academic tasks differently. Meanwhile, even high-achieving students may be less resilient in school if they have a fixed mindset (Zeng et al., 2016). Growth mindset interventions improve school achievement, especially in populations of students who are considered at risk for lower achievement (Dweck & Dweck, 2015). A direct relationship between mastery goals and "liking writing" was found, which suggests students with a growth mindset who adopt mastery goals may find academic skills like the writing process more enjoyable than those students who focus on solely performance goals (Yilmaz Soylu et al., 2017).

Students with the fixed mindset who adopt performance goals may be more concerned with maximizing desirable performance or minimizing poor performance, as opposed to engaging in instructional activities for the sole purpose of learning (Yilmaz Soylu et al., 2017). Students with a growth mindset will focus on the process of learning, whereas students with a fixed mindset will be more concerned with the outcome of a learning task. Teachers with growth mindset have developed positive psychosocial skills in students that improve students' engagement in academic behaviors as well improve school outcomes (Hanson et al., 2016). This previous research demonstrates the impact of growth mindset on many aspects of a student's academic achievement and progress.

Summary

The objective of positive and effective education is to improve the students' well-being as much as it is intended to improve their academic performance (Zeng et al., 2016). Previous research gives reason to examine whether the implementation of growth mindset has an impact on students' self-efficacy. With heightened self-efficacy, students would experience the associated academic benefits. Positive education promotes a stronger psychological well-being, lowers at-risk behaviors, and develops character strengths which are connected to long-term physical health benefits. Previous research has found that social persuasions have the power to shape an individual's self-efficacy (Kaya & Bozdog, 2016). Social persuasions support the development of self-efficacy enough to influence the individual to achieve success. Therefore, there should be further research to determine whether the growth mindset approach can serve as a social persuasion to impact students' self-efficacy.

CHAPTER III

METHODS

The purpose of this study was to determine whether the implementation of the growth mindset approach would have an impact on the academic self-efficacy of second-grade students.

Design

This research was conducted through a pre-experimental study with a pretest, posttest single group design. The research design did not use random sampling, as convenience sampling was utilized. A pretest and posttest were given to measure the dependent variable by assessing students' academic self-efficacy before and after participants received treatment. All participants received the treatment, which served as the independent variable of the study. The independent variable was the implementation of the growth mindset approach. The study took place over six weeks.

Participants

This study was conducted in a second-grade classroom of a Baltimore County Public School. Convenience sampling was the sampling method used for this study, as the participants selected were from the classroom that the researcher teaches on a daily basis. The class consists of 21 students who represent a range of academic ability levels from below grade level to above grade level. Two children in the class receive special education services, and another student receives ESOL services. Thirteen students are African American, two students are Hispanic, one student is Caucasian, and five students are Asian. Eleven students are female, and ten students are male.

Instrument

The General Self-Efficacy Scale designed by Schwarzer and Jerusalem (1995) was the instrument used in this study. This scale is a self-report measure of self-efficacy. This instrument was modified by the researcher when given as the pretest and posttest in the study in order to include language that was more appropriate for the grade level of the students serving as subjects, as the GSE was originally developed for the general adult population including adolescents. The scale was produced to measure a general sense of perceived self-efficacy with a goal to predict coping with daily hassles as well as adaptation after experiencing a variety of stressful life events.

The scale is usually self-administered; however, the researcher read each item on the instrument aloud to all subjects as it was given in order to avoid subjects' reading skills interfering with their performance on it. Responses are made on a four-point scale. In order to collect data on subjects' self-efficacy, the researcher must add the responses to all ten items to yield a final composite score that can range from 10 to 40, with a higher score indicating more self-efficacy (Schwarzer & Jerusalem, 1995). In samples from 23 nations, Cronbach's alphas ranged from .76 to .90 which reflects its internal reliability. When considering its validity, the General Self-Efficacy Scale is correlated to emotion, work satisfaction, and optimism, while negative coefficients were found for depression, health complaints, burnout, stress, and anxiety.

Procedure

Before the study began, all students in the researcher's second-grade classroom were given the General Self-Efficacy Scale as the pretest. This instrument was modified in order to accommodate students' reading level and comprehension since the original test was written for an older age group. The modified version of this instrument also included visual aids to

accompany each level on the four-point scale to help students better understand how to respond to each statement on the test. The modified GSE was administered to all students at the same time. The teacher read the directions as well as each test item aloud to students. Students were given as much time as needed to complete the pretest; however, all students were finished within ten minutes. The students were directed to rate themselves on the four-point scale for each of the ten statements on the test. Each statement was related to the students' self-efficacy. While the teacher was verbally providing directions, she reminded students that this type of test was not graded and there was no "right" answer. Students were encouraged to be honest and promised that their specific responses would be kept confidential.

After the pretest was administered, all students in the classroom received the same intervention, which was the growth mindset instructional approach. This intervention took place over the course of six weeks. The growth mindset was explicitly taught to students twice a week for about thirty minutes during each session. However, the instructor modeled the growth mindset with specific feedback, praise, and reminders on a daily basis during the six-week intervention.

The purpose of these lessons was to shape students' beliefs to reflect the growth mindset so students would adopt the belief that their academic skills and abilities could grow with effort and persistence. The object of this intervention was to change perspectives of students that may previously have had a fixed mindset, in which they believed their academic achievement was a reflection of their level of intelligence only. Direct instruction lessons on growth mindset were founded on best practices of teaching including social learning opportunities, authentic experiences, hands-on lessons, and multi-media presentations. Lessons considered the different

learning needs and styles in the classroom, so all students had an equal opportunity to learn successfully.

Some texts that were used as a teaching tool during the six-week intervention include The Girl Who Never Made Mistakes, The Dot, Your Fantastic Elastic Brain, The Most Magnificent Thing, and Giraffes Can't Dance. Other examples of instructional activities that lessons included are S.M.A.R.T. (specific, measurable, achievable, realistic, and timely) goal-setting, BreakOut EDU activities that are based on problem-solving strategies, and researching famous inventors that used the engineering process in order to be successful. The teacher also used specific comments to emphasize the growth mindset during instruction throughout the intervention. The teacher used precise language in order to positively reinforce students who were working hard as opposed to acknowledging their intelligence. The teacher also made sure to encourage and welcome students making mistakes in the process of learning.

At the end of the six-week intervention, students were given the modified version of the General Self-Efficacy scale again as the posttest. This instrument was scored in order to measure students' self-efficacy after the growth mindset approach had been implemented to determine whether it had an impact.

CHAPTER IV

RESULTS

This study examined the impact of the implementation of the growth mindset approach on second-grade students' academic self-efficacy. The hypothesis of this study suggested that the implementation of the growth mindset approach would have no impact on second-grade students' academic self-efficacy.

Table 1 shows the means and standard deviations for self-efficacy for the group before and after the intervention. An independent t-test was run to determine whether any significant difference in self-efficacy existed between the pretest and posttest measure. Results showed a significant difference in self-efficacy at posttest [$t(20) = -23.984, p < .01$]. Students demonstrated increased levels of self-efficacy at posttest as compared to prior to the growth mindset intervention. The null hypothesis was rejected. These results and their implications will be discussed in the next chapter.

Table 1

Means and Standard Deviations of Self-Efficacy for the Group

Pretest M(SD)	Posttest M(SD)
20.57 (5.182)	37.71 (3.036)

CHAPTER V

DISCUSSION

The purpose of this study was to examine whether instruction that focuses on growth mindset has an impact on students' academic self-efficacy. The null hypothesis predicted implementation of the growth mindset approach would have no impact on second grade students' academic self-efficacy. Results of this study rejected the null hypothesis, as there was a significant difference in students' self-efficacy at the posttest.

Implications of Results

Results of the study indicate the implementation of the growth mindset approach has an impact on second-grade students' academic self-efficacy. After the subjects of this study received the intervention of growth mindset instruction, their academic self-efficacy improved, providing evidence that this intervention was effective. An implication of this study is that further research should be conducted to examine the ability to generalize these results to a broader range of student populations and grade levels. Another implication of this study is that further research should be performed to determine how it would be most beneficial to utilize the intervention of instruction with the growth mindset approach. Educators as well as caregivers would benefit from learning about how to best implement this type of intervention to increase students' academic self-efficacy.

Theoretical Consequences

The results from this study suggest that second-grade students benefit from the implementation of instruction focused on growth mindset as data shows their self-efficacy improves. With an increased sense of academic self-efficacy, these students' performance and achievement in school should also improve (Kaya & Bozdog, 2016). With an increased self-

efficacy, students should also exhibit more positive learning behaviors including motivation, engagement, and perseverance (Yilmaz Soylu et al., 2017). Students who receive the intervention of the growth mindset approach in order to heighten their self-efficacy will benefit from further academic success and commitment to learning.

Threats to Validity

Some limitations of this study exist and provide insight into understanding the results obtained. Internal validity threats include history and/or maturation, as the students' increased self-efficacy could be attributed to the period of time that passed during the study as well as their academic growth caused by another variable throughout the period of the school year that occurred between the pretest and posttest. The external validity was impacted by the limitations in the variation of demographic characteristics, as convenience sampling was used. The study used a very small sample of second-grade students who attended the same public elementary school in Baltimore County, Maryland. Another threat to external validity is pretest-treatment interaction, suggesting students may have shown increased scores on the posttest simply due to being given a pretest and becoming aware of the intervention taking place.

Connections to Previous Studies and Existing Literature

The current study relates to previous studies that have been done to examine ways self-efficacy impacts students as well as studies that previously analyzed ways the growth mindset has been implemented. This current study relied on the educator implementing the intervention of instruction focused on growth mindset with fidelity which relates to a previous study which looked at the how teachers' attitudes and practices affect students' performance and behavior in school. During this current study, the educator had to portray and model a growth mindset in order to carry out the intervention properly so students could develop an understanding that their

malleable capabilities were a reflection of their effort. The implementation technique of this intervention was based on the findings of a previous study. This previous study provided evidence that a teacher can develop attitudes and behaviors among students that contribute to their success in life (Blazar & Kraft, 2017). With the results of this study, it provided purpose for the current study to further this topic with the specific intervention of growth mindset.

Another previously conducted study also aimed to examine the predictive power of self-efficacy on student achievement, specifically in the content areas of mathematics and science. This study revealed a significant relationship between self-efficacy and mastery experiences for those students (Kaya & Bozdog, 2016). This relates to the current study which encompassed students' self-efficacy with regard to all academic content areas for second-grade students. The results of this current study aligned with the previous study as students' self-efficacy improved after they received growth mindset instruction.

Implications for Future Research

This study indicated a significant impact on students' academic self-efficacy, so further research should be continued on this topic. Studies designed with random selection should be carried out in order to generalize the results and allow findings to be more relevant. Future research should also consider the most beneficial way to implement the intervention by addressing the frequency or duration that instruction focused on growth mindset should be provided to students in order to yield the best results. This would provide educators with more insight of how to carry out the intervention to increase student self-efficacy. Future research may also address the impact of the growth mindset on an individual's self-efficacy beyond the field of academics. This may consider a subject's self-efficacy in other life functions and tasks after he or she has been instructed in the growth mindset approach. Previous research and

literature has outlined the benefits of an individual's increased self-efficacy, which provides purpose for further research in this area.

More research with diverse populations could be performed in order to generalize the impact of this type of intervention to larger populations of students with more diverse characteristics, such as different socioeconomic levels, races, ages, etc. Future studies should be designed to include random selection of subjects in order to be more representative of the general population so that implications of the results are more valuable.

Conclusion

The objective of this study was to identify whether instruction that focuses on establishing a growth mindset has an impact on students' academic self-efficacy. Self-efficacy is an individual's belief about his or her competencies in a possible situation. Albert Bandura's (as cited in Walia, 2017) research described self-efficacy as an individual's belief that he or she possesses the ability to accomplish a chosen goal successfully. This famous theorist also suggested that self-efficacy can be shaped or changed. Throughout this current study, self-efficacy was examined through an academic lens as an individual's judgment of his or her learning and achievement skills in a school setting. The study of shaping self-efficacy provides relevance and resources to educators because self-efficacy can impact the way an individual approaches goals, tasks, and challenges (Saeid & Eslaminejad, 2017). Therefore, a child's self-efficacy can relate to his or her learning behaviors, which may impact future academic achievement.

Growth mindset is based on a theory that perceives intelligence as an attribute that can be developed over time (Orosz et al., 2017). Students with a growth mindset may interpret their academic performance as a result of their effort and experience. Students with a growth mindset

believe their abilities can be honed with practice, so they are in control of their own learning and achievement (Stec, 2015).

Although this study focuses its research on a small academic setting by examining data provided by second-grade students in one classroom, implications of the research can be widespread as individuals may apply growth mindset to their competencies in other areas of life, which could reflect their level of self-efficacy.

Results from this study rejected the null hypothesis that the intervention of growth mindset would have no impact on students' academic self-efficacy. Findings provided evidence that this type of intervention improves students' academic self-efficacy.

An individual's self-efficacy can be predictive of their academic, social, and emotional achievement. Therefore, it is important for research to continue to further this topic in order to determine whether there is an opportunity to shape students' self-efficacy in order to yield more positive growth in these learners.

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