

St. Catherine University

SOPHIA

Masters of Arts in Education Action Research
Papers

Education

12-2017

Using Mindfulness to Self-Regulate in the Upper Elementary Classroom

Ashleigh L. Bartz

St. Catherine University, alBartz017@StKate.edu

Follow this and additional works at: <https://sophia.stkate.edu/maed>



Part of the [Educational Methods Commons](#), [Educational Psychology Commons](#), and the [Elementary Education Commons](#)

Recommended Citation

Bartz, Ashleigh L.. (2017). Using Mindfulness to Self-Regulate in the Upper Elementary Classroom. Retrieved from Sophia, the St. Catherine University repository website: <https://sophia.stkate.edu/maed/245>

This Action Research Project is brought to you for free and open access by the Education at SOPHIA. It has been accepted for inclusion in Masters of Arts in Education Action Research Papers by an authorized administrator of SOPHIA. For more information, please contact amshaw@stkate.edu.

Using Mindfulness to Self-Regulate in the Upper Elementary Classroom

Submitted on December 17, 2017

in fulfillment of final requirements for the MAED degree

Ashleigh Bartz

Saint3 Catherine University

St. Paul, Minnesota

Advisor _____

Date _____

CLASSROOM

Abstract

The purpose of this research was to determine the effects on students' ability to self regulate while learning about daily mindfulness lessons. The study took place over the course of six weeks in an upper elementary class of 20 students, including four fourth graders, nine fifth graders, and seven sixth graders. The study was conducted in a rural public Montessori school in the Midwest. Students participated in a six-week mindfulness unit from The Mind Up Curriculum (The Hawn Foundation, 2011). The researcher collected data through a pre-and post-assessment, students' self reflections and graphs, researcher's observation, and researcher's daily journal. The data suggested students, when given mindfulness lessons, could become more self-regulated. From pre and post assessment, there was a 170% growth in the number of students who would like to use mindfulness techniques in their future. Although the numbers increased, further research could demonstrate effects of mindfulness lessons for on-task behavior and self-regulation over a longer period of time.

Keywords: self-regulation, mindfulness, Montessori, upper elementary, The Mind Up Curriculum, Hawn Foundation, self reflection, on-task

CLASSROOM

Mindfulness plays an integral role in academic and life success. The founder of Mindfulness-Based Stress Reduction, Jon Kabat Zinn, explains that self-regulation can be achieved by using mindfulness methods. “Fundamentally, mindfulness is a simple concept. Its power lies in its practice and its application. Mindfulness means paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally.” (Kabat-Zinn, 1994, p. 4). Stress to achieve, money issues, excessive screen time, and health problems all hurt students' academic ability in the classroom. Students without proper nutrition or emotional support are also forced to live with anxiety and hardship. “Mindfulness provides a simple but powerful route for getting ourselves unstuck, back into touch with our own wisdom and vitality. It is a way to take charge of the direction and quality of our lives” (Kabat Zinn, 1994, p. 5). Children today need to learn skills to cope with these obstacles. Self-regulation can be taught to students and create a more joyful learner.

In recent years, mindfulness has grown in popularity. The Mind Up Curriculum (The Hawn Foundation, 2011) defines mindfulness as focusing without judgment. “A mindful classroom is an optimistic classroom that promotes and develops mindful attention to oneself and others and tolerance of differences” ((The Hawn Foundation, p. 20, 2011). Mindfulness means slowing down during a busy or stressful day and focusing one’s attention on the task at hand. Compassion, responsibility, self-awareness, and academic success can all be cultivated to create a mindful student.

In 1949, Montessori described school-age children contradictory to what is observed in many of today’s children. “The next period goes from six to twelve. It is a period of growth unaccompanied by other change. The child is calm and happy. Mentally, he is in a state of

CLASSROOM

health, strength and assured stability" (Montessori, p. 18). Unfortunately, in the 21-century, students have many added stressors. Distractions such as screen time, social media, grades, friends, and bullies dominate the classroom. Students that should be learning key concepts at school, need a solution to this problem. Self-regulation is the ability to assess one's own thoughts and feelings, interests, values, and strengths. Students today, more than ever, must learn how to be calm and happy. By learning mindfulness techniques, students' learning will be exceedingly gratifying.

Maria Montessori is acclaimed for guiding her students naturally through their planes of development. "Growth and psychic development are therefore guided by: the absorbent mind, the nebulae and the sensitive periods, with their respective mechanisms. It is these that are hereditary and characteristic of the human species. But the promise they hold can only be fulfilled through the experience of free activity conducted in the environment" (Montessori, 1949, p. 96). The younger mind is capable of naturally absorbing knowledge. A baby learns to speak after only a year of absorbing the information around them. When taught about mindfulness, students are able to soak up the information. Teaching students about their brain functions gives them background information to understand how their body works. Knowing about the brain can help them realize why they feel a certain way. Students are then able to take these mindful concepts and apply them to their stressful lives.

In the researcher's classroom, students were showing signs of stress, anxiety and the lack of self-regulation. The work in a Montessori classroom should be selected by the student and there should be no interruptions by teachers or other adults. This way, students can focus and engage with their work. Unfortunately, students would not use work time appropriately and

CLASSROOM

would often waste time or procrastinate by talking with classmates. The researcher observed when students were given three hours of uninterrupted work time in the Montessori classroom, they could not focus. Montessori believed that the classroom's goal should be to activate the students' own desires to learn. The researcher decided to conduct a six-week study. The purpose of this study was to observe the effects of giving mindfulness lessons on students' ability to self-regulate.

The research was conducted in a rural town in Southern Minnesota. The Montessori charter school had a total of 60 students in pre K through twelfth grade. The researcher's classroom had 20 students in a fourth through sixth grade multiage classroom. Students were given mindfulness lessons for 15 minutes, three times a week. Mindfulness lessons were given at the start of the school day. At the end of these lessons, students were asked to close their eyes and concentrate on their breathing. Students were then asked a series of questions focusing them on their goals for the day. All students were familiar with the Montessori philosophy and had attended the Montessori school for at least two years. The ethnicities of the group included white and Native American.

Review of Literature

Self-management plays an integral role in students' success, however students today are rarely taught skills in school to help them self regulate their behaviors throughout the day. Students attend fundamental classes such as Math, Language Arts, Science, and many other basic classes, yet many students are often distracted and inattentive during these classes. Although academic success is crucial for students, they struggle due to lack of self-regulation and mindful practices; without being able to self regulate, students' education may be threatened. Fortunately,

CLASSROOM

according to Lillard, "Recent years have seen an increase of research incorporating mindfulness practices in education with the aim of improving children's well-being" (2011, p. 78). Lillard (2011) describes mindfulness as a quality of focused attention on the present moment. Currently, there is no specialized class that teaches mindfulness, thus students are left to themselves to master these complex skills. Unfortunately, academic engagement is measured through on-task behavior (Haut & Otero, 2016) and the pattern of off-task behavior creates students who fail in their work and suffer throughout school. Since the early 1970s, researchers have been studying self-regulation strategies as a way to increase positive behavior such as using self-management and calming techniques (Anderson, A., Didden, R., Glassenbury, M., Lang, R., & Moore, D. W., 2013). According to the literature on self-regulation and mindfulness, mindfulness can dramatically help students focus on their work and become academically successful.

Strategies Used During On-Task Behavior Studies

Many studies have employed vibrating timers as an intervention to show the effects of self-monitoring, including studies by Anderson et al. (2013) and Haut and Otero (2015). Anderson et al. (2013) examined increased off-task behavior in general education classrooms instead of focusing on classrooms with behavior disorders or other disabilities, while Haut and Otero (2015) studied students that were seen as at risk and showed off-task behavior. In the Anderson et al. (2013) study, teachers referred three 12-13 year-old students with high levels off-task behavior during regular class time. An electric beeper called a Motiv Aider was given to each student and set to vibrate at certain intervals. Participants were in charge of tallying on-task and off-task behavior when the electric beeper vibrated. In the study by Haut and Otero (2015), the same tangible reinforcement was also used. Six participants chosen by their classroom

CLASSROOM

teachers participated in the study because they were seen as at risk for continuous off-task behavior. In this intervention, the Motiv Aider was used as the primary tool for intervention, similar to the Anderson et al. study. A difference in the study by Haut and Otero (2015) was they used additional tools such as a self-monitoring recording form to fill out at one-minute intervals, a picture of the specific participant engaging in on-task behavior, and small rewards such as school supplies. The Motiv Aider vibrated at one-minute intervals for a 20-minute session. The participants were then asked to fill out a form marking if they were on task or off task when the Motiv Aider vibrated.

Results of both studies showed similar, beneficial outcomes. During baseline of the Anderson et al. study, all three students exhibited consistently low levels of on-task behavior. All three students increased their on-task behavior when the intervention was introduced. Furthermore, the results showed the intervention was easy to use and suitable with any subject area (Anderson et al., 2013). Anderson et al. (2013) claimed, "The intervention was effective and the improvements in the participants behavior could also be seen in other lessons where the self monitoring program has not been introduced" (p. 308). Results of the Haut and Otero (2015) study showed participants "displayed on-task behavior during typical classroom activities over the six to eight week intervention" (Haut & Otero, 2015, p. 97). Students that demonstrated difficulty staying on task during baseline, dramatically changed their behavior during the intervention. All participants were given questionnaires after the intervention and agreed the intervention helped them stay on task. They also agreed the intervention was easy to use.

Axelrod, M. I., Zhe, E. J., Haugen, K. A., and Klein, J. A. (2009) also examined on-task behavior with students with attention and behavior problems while doing homework. The study

CLASSROOM

included five adolescent students who had high rates of off-task behavior. Unlike the Anderson et al. (2013) and Haut and Otero (2015) studies, Axelrod et al. (2009) collected data on students completing homework. Participants recorded on-task behavior at three minute fixed intervals. Observing staff also recorded participants' homework completion. Ten minute sessions, where students recorded their own behavior, were also conducted and observed. Similarly, Perels and Schmitz (2011) also conducted a study researching self-regulation. Both studies used self check-in as a tool. In the Perels and Schmitz (2011) study, 95 eighth grade students participated by answering questions in a diary regarding self-regulation for a period of 49 continuous school days. A questionnaire about self-regulation and a math test were given as a pretest. Participants were told to fill out their diaries every day before and after doing math homework. A parallel math test, which assessed basic mathematical knowledge and problem-solving strategies, was given after the intervention. At the end of the study, students were rewarded by the completeness of their diary and received a token for a CD, book, or game.

The studies showed diverse conclusions. As a result in the Axelrod et al. (2009) study, the percentage of incomplete homework decreased in all five participants during the intervention. Questionnaires completed said the intervention was viewed as "easy to use and effective" (Axelrod et al., 2009, p. 329). The study concluded that self-monitoring interventions where students have short gaps of self-checks would improve on-task behavior. Axelrod et al. claimed that, "The results suggest that self management interventions can be initiated to achieve quick and dramatic improvements of on-task behavior for students with impairing attention problems" (Axelrod et al., 2009, p.331). Change in the Perels and Schmitz (2011) study was not observed after first diary entry, but trends showed pre- and post- differences of increased self-

CLASSROOM

regulation. "It can be concluded that there were effects of this self-monitoring intervention that lead to pre- and post differences for self-regulation, self efficiency, and the math test" (Perels & Schmitz, 2011, p. 266). Although these two studies used self reflection in a different way, both studies showed positive results as students exhibited growth.

Strategies Used During Mindfulness Studies

Researchers have found students with attention deficit/hyperactivity disorder (ADHD) can have increased attention and academic productivity with the help of self-regulation by using self-monitoring and self-management skills. Typically, medication is used to treat students with ADHD, however many studies have been done over the years to test alternative interventions. Some interventions include self-monitoring strategies to encourage the participants' awareness of his or her actions after a task is complete. Overall, studies have shown increased academic productivity, decreased misbehaviors, decreased inappropriate verbalization, increased academic accuracy, and increased on-task behavior (Reid, R., Trout, A. L., & Schartz, M., 2005).

Other studies on ADHD involve mindfulness training such as breathing exercises. In a mindfulness study by . Bögels, S., de Bruin, E., Formsmma, A., and van de Weijer-Bergsma, E. (2007), ten adolescents with ADHD were given mindfulness training along with their parents. The participants were ages 11 to 15 years old. Before the study, the adolescents and their parents met for a pre-intervention and discussed problems associated with ADHD. Participants learned to focus and to increase awareness and self-control by doing mindfulness and breathing exercises. Mindfulness exercises included someone trying to distract a participant and having them continue to try focus on the task as well as lessons regarding school homework. Parents participated in a separate mindfulness procedures to help with self-care, non-judgment, and

CLASSROOM

mindfulness reactions to their child. These included mindfulness awareness, parenting stress, parenting style, fatigue, happiness, and attention. A pre-and post-test were given as well as a 16-week follow up. Due to drop out, only eight participants completed the entire Bögels et al. study. After mindfulness training, fathers reported significant reduction in problems while mothers and adolescents reported no significant reduction (Bögels et al., 2011, p. 780).

Abbott et al. (2015) discussed the added pressure of today's schools to achieve high academic performance and also to cater to social emotional needs, like socializing and empathizing. This study implemented The Mind Up Curriculum program, used with 99 students in fourth and fifth grades. The Mind Up Curriculum consisted of 12 lessons, each taught for 50 minutes once a week. It also included three minutes of daily breathing and listening exercises. A pre and posttest were given to all students, and teachers measured students' achievement in math. Students participating in the Mind Up Curriculum showed a trend of higher end of year math grades than students that did not participate in The Mind Up Curriculum. "The findings demonstrate that giving children mindfulness attention training in combination with opportunities to practice optimism, gratitude, perspective taking, and kindness to others can not only improve cognitive skills but also lead to significant increase in social emotional competencies" (Abbott et al., 2015, p. 63).

A variety of mindfulness studies have used pre and posttest or pre and post questionnaires to collect data including studies by Bögels et al (2007), Abbott et al. (2015), Black and Fernando (2014), and Goldin (2016). Pre and post questionnaires can be helpful to assess students' growth. These studies all showed valuable data on pre and post questionnaires.

An intervention by Black and Fernando (2014) used a mindfulness program, similar to

CLASSROOM

The Mind Up Curriculum, to examine if a longer time on a mindfulness curriculum was valuable. Black and Fernando found increasing mindfulness curriculum lessons was beneficial. Four-hundred and nine students, grades kindergarten through sixth, were separated into two groups using different mindfulness curriculums. One group utilized Mindful Schools, a five-week program. The second group used Mindful Schools Plus, a 12-week program. Both curriculums delivered 15-minute sessions three times a week. Mindfulness meditation teachers taught the curriculum to students and instructed classroom teachers on additional mindfulness activities. Classroom teachers administered these two-minute mindful exercises while the mindfulness meditation teachers were not present. Participants were also asked to practice mindfulness throughout the school day and at home. Students were ranked 0 (low) to 4 (high) on a behavior rubric. Categories included paying attention, self-control, participation in activities, and caring and respecting others. Students using the Mindful Schools Plus curriculum were reported to have similar improvements from Mindful Schools curriculum such as self-control, participation in activities, and caring/respect for others. The only outcome that was different between the Mindful Schools curriculum and Mindful Schools Plus curriculum was the rise in paying attention with the Mindful Schools Plus curriculum (Black & Fernando, 2014).

An alternative study conducted by Goldin, P. R., Karunananda, A. S., and Talagala, P. D. at an international school in Sri Lanka was shorter in length but achieved comparable results. This study was done with 148 undergraduate students and 12 postgraduate students from two different universities. The study was used to examine mindfulness and cognitive abilities for a single, one-hour lecture class, instead of a longer program such as studies by Abbott et al. (2015), and Black and Fernando (2014). Retention, thinking, note taking, out-of-the-box

CLASSROOM

thinking, and mindfulness, were measured zero (low) to 20 (high) (Goldin, 2016). An interviewer administered questionnaires and recorded students' responses. Students scored high if they took detailed notes and retained information covered in the lecture. Also the interviewer asked short answer questions that required analyzing and synthesizing of out-of-the-box questions not covered in the lecture. Goldin's 2016 study stated:

Each student was asked (A) whether the student was aware when their mind wandered away from the lecture, (B) whether it was possible to bring the mind back to the lecture, (C) how frequently the mind drifted away from the lecture, and (D) when your mind wanders, did it have an impact on your retention, thinking, note taking, and out-of-the-box thinking. (p.27)

Based on the data, results were in the "positively moderate level" (Goldin, 2016, p.27). Although note-taking scores were high, retention ability, thinking ability, and thinking out of the box were low. "This suggests that all the students found it difficult to generate mindfulness in class" (Goldin, 2016, p.27). It is possible the short timeline of the study may have affected the results, which are contradictory to other mindfulness and self-regulation studies.

According to the literature on self-regulation and mindfulness interventions, mindfulness exercises can help students focus. Tools, such as the Motiv Aider helped students concentrate on their work. Self check-ins helped students self regulate and increase achievement. Mindfulness exercises also proved to increase focus and self-regulation. This type of focused work is valued in Montessori education; sustained, deep concentration was the goal Maria Montessori hoped to achieve in her classrooms. Montessori education, in nature, has the foundation to be a self regulated environment and a perfect place to implement a mindfulness curriculum.

CLASSROOM

Methodology

For this action research project, the researcher implemented a curriculum called The Mind Up Curriculum. The Mind Up Curriculum has lessons starting with neuroscience, moving into mindfulness, and ending with global action. The Mind Up Curriculum boasts benefits including: improved self control and self regulation skills, strengthened decision making, boosted enthusiasm for learning, increased academic success, development of positive social skills such as empathy, compassion, patience, and generosity, and reduced peer conflict.

The curriculum was a part of the school day and parents were given a passive consent form due to the data collected for this action research project (see Appendix A). These were given out at Back to School night on August 30, 2017 and parents were informed that they were due back on the first Friday back to school, September 8, 2017. The passive consent form was thorough and included as much detail as possible. It explained that the study was about the benefits of mindfulness, the data tools to be used and the guidance the researcher had from faculty members from St. Catherine's University. Also included were the dates of the study, which were September 11, 2017 through October 20, 2017. It was made clear that students' names and school name would not be in the study. It was mentioned that the study would be available electronically in the St. Catherine's University library. Parents had the option to have their child's data excluded from the study. There were no parents that declined.

The researcher devoted six weeks to this mindfulness study. The intervention included meeting two or three times a week for six weeks. Participants met at morning meeting from 8am - 8:15am to begin the school day. Children were not forced to participate, but all students did

CLASSROOM

participate. Morning meeting mindfulness lessons were cancelled due to a school fall break on October 19, 2017 and October 20, 2017.

Participants started the study the second week of school on September 11, 2017. To measure mindfulness before lessons were given, the researcher started with a baseline pre questionnaire on their own mindful behaviors (see Appendix B). The pre questionnaire asked students to read 19 statements and rate themselves on their opinion of what applied to them. They rated themselves on a scale from zero to five, where one signified strongly disagrees, all the way to five signified strongly agree. Zero signified they were not sure on their answer. The statements were written to answer questions on focus and mindfulness. In addition to the scale of statements, there were four questions that asked about specific mindfulness in their daily lives. The pre questionnaire was also given again as a post questionnaire on October 18, 2017.

After our pre questionnaire, the researcher began the mindfulness lessons by sitting on the rug and filling out a list of goals for the day. Each student wrote down his or her own personal goals for each day. Students were then led in a discussion about mindfulness.

Fifteen mindfulness lessons were divided among the six-week study. Mindfulness lesson plans changed each Monday, Wednesday, and Friday for the first three weeks. For lessons to be divided evenly over the six weeks, the following three weeks of mindfulness lessons were only given on Monday and Wednesdays. The mindfulness lessons started with foundation lessons about brain science. After participants understood the parts of their brains and functions, they learned about using their senses to appreciate mindfulness and self-regulate. Next participants learned about how their attitude affects their self-regulation and others. Lastly, participants took action by purposefully practicing mindfulness. See Table 1 for the mindfulness lesson plans.

CLASSROOM

Table 1

The Mindfulness Lesson Plans

	Monday	Wednesday	Friday
Week 1	Lesson 1: How Our Brains Work	Lesson 2: Mindful Awareness	Lesson 3: Focused Awareness
Week 2	Lesson 4: Mindful listening	Lesson 5: Mindful Seeing	Lesson 6: Mindful Smelling
Week 3	Lesson 7: Mindful tasting	Lesson 8: Mindful movement 1	Lesson 9: Mindful movement 2
Week 4	Lesson 10: Perspective Taking	Lesson 11: Choosing Optimism	
Week 5	Lesson 12: Appreciating Happy Experiences	Lesson 13: Expressing Gratitude	
Week 6	Lesson 14: Performing Acts of Kindness	Lesson 15: Taking Mindful Action in the World	

Table 1. *The Mindfulness Lesson Plans*

Lessons ended by lying on the floor and doing a self-body scan. Participants started at their feet and connected with their body's feelings. The researcher concluded each self-body scan session by asking participants how they would be mindful members of the community today. The researcher posed the idea of visualizing their goals each day. Then students began their work period.

At the end of each day at 2:30pm, students completed a self-reflection and graph form (see Appendix C). This form was used to help students stop and reflect on their day. The self-reflection form asked students to answer seven statements. They filled out a chart with a number

CLASSROOM

signifying: 2 = I did this all day long, 1= I could be better at this, or 0= I am not doing this.

When they were finished filling out their self-reflection, they graphed their results by adding up their points. The pre and post self-reflection and graph were the two data collection tools that students filled out.

Each day, the researcher filled out a two-minute daily observation form (see Appendix D). The goal was to fill out the observation form approximately the same time each day. However, the researcher observed in between lessons and when she could find time. Overall, the researcher observed most in the morning. The researcher marked a tally for each student based on what they were doing in the classroom. The topics ranged from: students engaged in work, not engaged in work, receiving help, walking around the classroom, and disruptive behavior.

The last form of data collection was also completed by me. At the end of each day, the researcher completed a reflective journaling form (see Appendix E). The form was used to help contemplate on the events, activities, and behaviors of the class on each particular day. It was designed to help document connections between the data results and possible daily situations. The researcher filled in six different sections ranging from the mindfulness lesson taught to thoughts about the morning and afternoon's progress.

At the end of the six-week study, a post questionnaire was given. Students were asked to take the exact same assessment as the pre questionnaire. The post questionnaire was used to compare the before and after results of the mindfulness study.

Analysis of Data

During the six-week study, the researcher collected inquiry data and observational data to determine the participants' ability to self regulate. There were four data collection tools the

CLASSROOM

researcher used that had both quantitative and qualitative answers. The data collection tools were: pre and post questionnaire, self-reflection and graph, daily observations, and daily journaling.

Baseline data was collected from participants by completing a pretest questionnaire. A pre and post questionnaires were analyzed to assess if there was a change between the participants' answers before the intervention and after the intervention. The participants' answers were rated zero through five, zero representing "not sure", one representing "always disagree", two representing "sometimes agree", three representing "neutral", four representing "sometimes agree", and five representing "always agree." See Table 2 for the pretest and post questionnaire statements.

Table 2

Pre and Post Questionnaire Statements

1. I focus on my work.
2. I focus while I am in a lesson.
3. I can redirect my attention when I get distracted.
4. I follow classroom expectations.
5. I am respectful of others, the environment, and myself.
6. I follow directions the first time they are given.
7. I always complete my work.
8. I am neat and do not rush my work.
9. I listen when the teacher is talking.
10. I listen when other students are talking.
11. I work well with other students.
12. I have control over my actions.
13. I think about my brain's functions when needed.
14. I can control my breathing.
15. I have mindful listening.
16. I have mindful seeing.
17. I have mindful smelling.
18. I have mindful tasting.
19. I have mindful movements.

Table 2. *Pre and Post Questionnaire Statements*

CLASSROOM

In the pre questionnaire, participants averaged a total rating of 4.2, “Sometimes Agree.” After the study, the researcher decided statements one through eleven were not applicable with the behavior of self-regulation. Initially, the researcher went into the study thinking one through ten were relevant statements to ask but realized the statements did not directly affect self-regulation and did not correspond to the purpose of this study. For example, a child may be focused but not mindful or self regulated. Therefore, the researcher looked specifically at statements twelve through nineteen. Statement twelve, “I have control over my actions”, moved from 4.3 in the pre questionnaire to 4.7 in the post questionnaire. The subsequent questionnaire responses reveal participants believed they were equally or more in control of their actions after the intervention. On statements twelve through nineteen, the most reoccurring response was four on the pre questionnaire. There was one participant who chose three. On the post-questionnaire, participants averaged a four. The most reoccurring response was a four again. There were zero participants who rated themselves a zero, one, or two on the post questionnaire. See Figure 1.

CLASSROOM

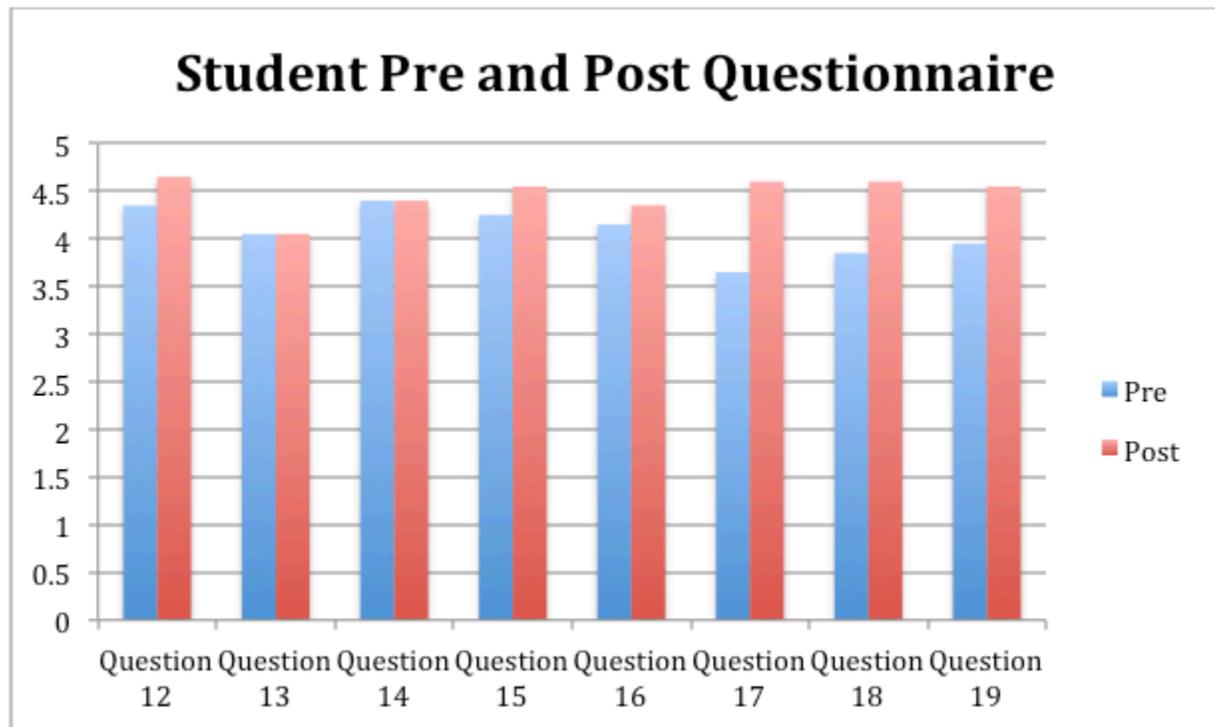


Figure 1. *Student Pre and Post Self Questionnaire*

Also on the pre and post questionnaire the researcher inquired about mindfulness and self-regulation with short answer questions. Question one asked, “What do you do to stay focused on a task?” Question two asked, “What does mindfulness mean to you?” Question three asked, “Would you like to use mindfulness techniques in your daily life?” And question four asked, “If so, how would you use mindful techniques in your daily life?” The researcher determined which participants had a deeper understanding of mindfulness responses for questions one and two. See Table 3 for examples of pre and post questionnaire responses.

CLASSROOM

Table 3

 Examples of Pretest and Post Questionnaire Responses to Question One

Question: What do you do to stay focused on a task?

Pretest Examples:

1. I tune out all other distractions.
2. I ignore anything that isn't important.
3. I think about what I am doing.
4. I look at the person that is talking.

Post Questionnaire Examples:

1. I breathe real slow and block out noise.
 2. I stay quiet.
 3. I take a deep breath if someone detracts me and stay focused.
 4. I picture not finishing my work.
-

 Table 3. Examples of Pretest and Post Questionnaire Responses to Question One

The second open-ended question asked, "What does mindfulness mean to you?". The researcher noticed participants did not understand or comprehend mindfulness. At the end of the intervention, the researcher noticed participants answered using similar verbiage to lessons taught on mindfulness. Participants showed greater understanding and personal connection in the post questionnaire. (See Table 4)

Table 4

 Examples of Pretest and Post Questionnaire Responses to Question Two

Question: What does mindfulness mean to you?

Pre Questionnaire Examples:

1. I do not know what it means.
2. Looking for better options.
3. To be nice to people.
4. To be careful on my work.

Post Questionnaire Examples:

1. Taking control of your body.
 2. To be aware and alert about my surroundings.
 3. Calming down your body and not hurrying.
 4. Being aware and doing the right thing at the right time.
-

 Table 4. *Examples of Pretest and Post Questionnaire Responses to Question Two*

CLASSROOM

Question three asked, "Would you like to use mindful techniques in your daily life?" Pre questionnaire responses showed that ten participants would like to use mindfulness; three participants responded they did not, and seven participants did not know if they would like to use mindfulness in their daily lives. See Figure 3.

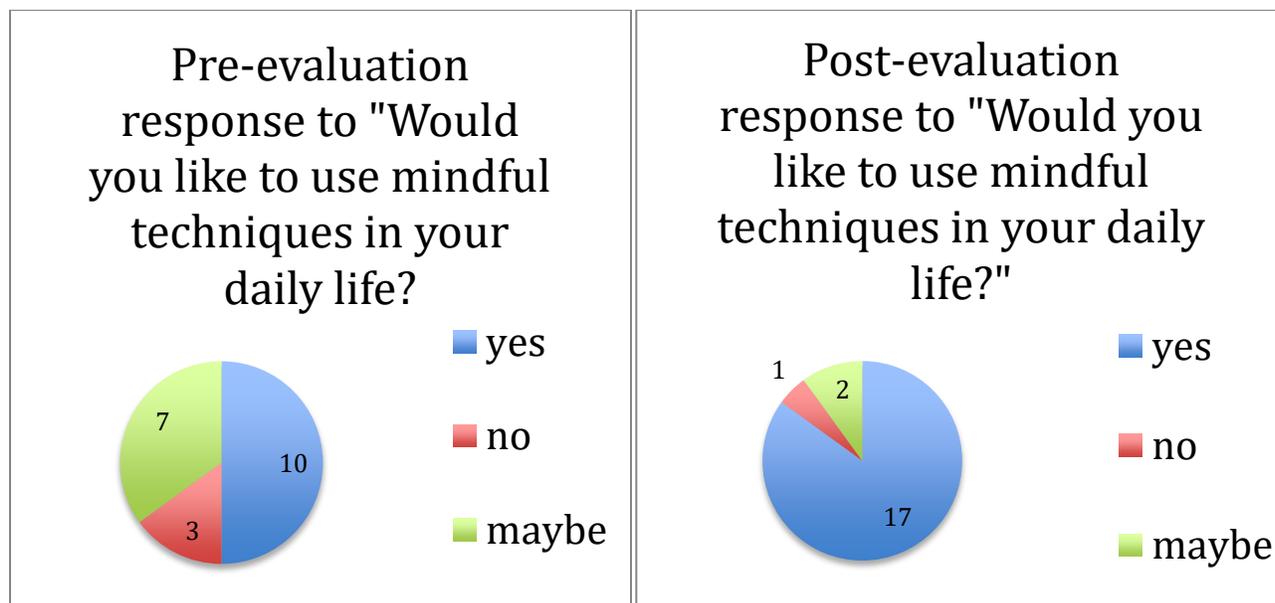


Figure 3. *Pre and Post Questionnaire Response to Would You Like To Use Mindful Techniques In Your Daily Life?*

On the post questionnaire, seventeen participants recorded they would like to use mindfulness in their daily lives. Two stated they would not use mindfulness and only one recorded they did not know if they would use mindfulness techniques in their daily lives. The results show during the pre questionnaire 50% of participants would use mindfulness techniques but after intervention, 85% of participants would use mindfulness. Only 5% of participants would not use mindfulness after the intervention.

CLASSROOM

Question four asked, “If so, how would you use mindful techniques in your daily life?” In the pre questionnaire, eleven participants responded either “I do not know” or left it blank. The other nine participants responded with limited understanding of mindfulness techniques. In the post questionnaire, three participants left the answer blank while seventeen participants gave specific mindfulness techniques learned in class.

During the intervention, participants also filled out a self-observation and graph at the end of each day. Participants rated themselves each day on a scale of zero: “I am not doing this”, one: “I could be better at this”, or two: “I did this all day long”. Participants then graphed their results each day. Although the participants filled out their self-observation and graph each day, the researcher only took the first day of pre intervention data and the last day of post intervention data. This way, the researcher could see growth from the first day to the last day. See Table 5 for statements.

Table 5

 Self Observation Statements

1. I turned in everything I needed to today.
 2. My planner was filled out correctly.
 3. I had control over my actions.
 4. I stayed on task and did my work.
 5. I was neat and did not rush.
 6. I was respectful to others, my environment, and myself.
 7. I followed directions the first time they were given.
-

 Table 5. *Self Observation Statements*

When looking at the pre and post reflection and graph, the researcher did not use statements one, two, five, six, and seven because the statements did not reflect the intervention of mindfulness or self-regulation. In the pre questionnaire, response three, “I had control over my

CLASSROOM

actions”, scored an average of 1.85. The median and mode were 2. In the post questionnaire, the average was 1.95. The median and mode were also 2. Statement four, “I stayed on task and did my work”, scored an average 1.3 on the questionnaire, with a median and mode of 1. On the post questionnaire, the average score was 1.85 and the median and mode were 2. This shows an increase on both questions from the pre and post self-reflection and graph. See Figure 5.

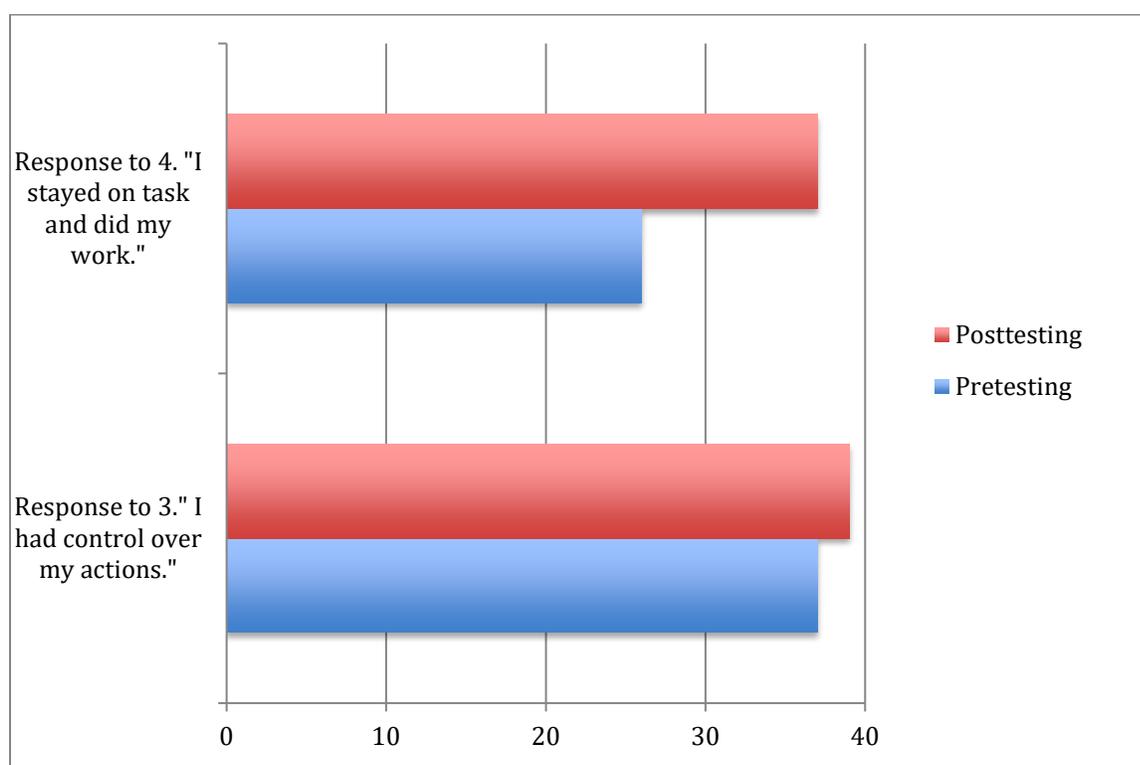


Figure 5. *Pre and Post Self Reflection Graph*

During interventions, the researcher took daily tallies by observing participants work engagement. Tallies were marked once a day between 8:00AM and 11:00AM. Times changed due to when participants were in the classroom. The researcher chose from options: “engaging in work,” “not engaging in work,” “using work as a prop,” “choosing work,” “receiving help,” “looking for help,” “wandering /interfering,” “wandering with purpose,” or “behaving

CLASSROOM

disruptively.” The researcher compared observations on the first and last day of the intervention. After interventions, the researcher combined categories into either “engaged” or “not engaged.” Categories that matched engaged were: “engaging in work,” “choosing work,” “receiving help,” “looking for help,” and “wandering with purpose.” Categories that matched no engaged were: “not engaging in work,” “using work as a prop,” “wandering /interfering,” and “behaving disruptively.” Baseline observation records show that of the 20 participants, 16 were on task. The researcher believes that the first day of observation results were skewed due to participants’ unclear perception of mindfulness. Therefore the researcher collected data daily for 28 days. This is justified by the fact that the first five days that of students that were engaged and not engaged was drastic. Students were also not introduced to mindfulness yet. The average number of participants engaged on days 1, 2, and 3 was 12.3. The average of participants not engaged was 7.7. Midway through the intervention, eight participants were engaged and ten were not engaged. The average engaged participant from the last three days of the intervention was 16.7. The average not engaged participant was 3.3. There was a noticeable increase of participants engaged from the first three days of intervention to the middle of the intervention to the last three days of the intervention. There was a decrease in participants not engaged throughout the intervention. See Figure 6.

CLASSROOM

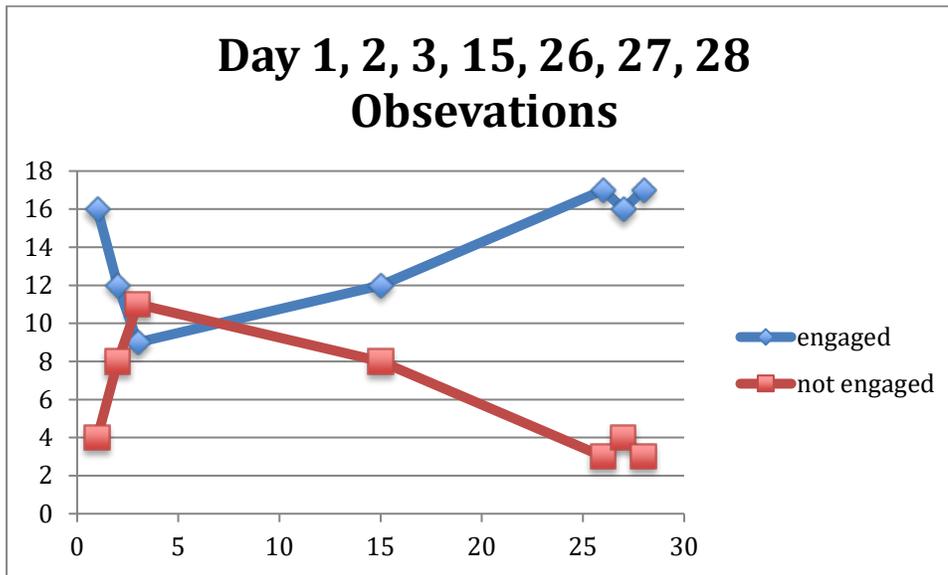


Figure 6. Day 1, 2, 3, 15, 26, 27, 28 Observations

There were 28 days total of the study. All days of the observation can be seen on Figure 7. Although the numbers jump around more than the Figure 6, trends to continue to go up in Figure 7. (See Figure 7)

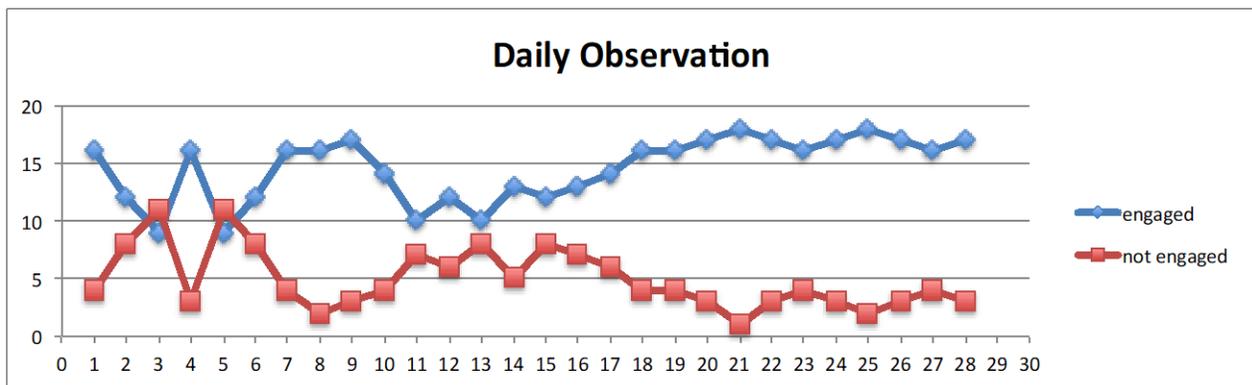


Figure 7. Daily Observations

CLASSROOM

At the end of each day the researcher wrote in a journal to reflect. Unusual classroom events, reflection on the daily mindfulness lesson, and reflection of the morning and afternoon were all recorded in the journal. The journal was used as a tool for researcher to document connections between the data results and possible daily situations. The researcher compared each day of the six-week intervention to the researcher's daily observation form of engaged and not engaged participants. There was a noticeable similarity between the researcher's daily observations and daily self-reflection. As participants' engaged more in their work over the six-week intervention, they also showed to be learning more about mindfulness in daily lessons. The researcher noted in the daily self-reflection journal participants exhibited a deeper understanding of what mindfulness was which correlated with participants showing more self-regulation and engaged behaviors.

Although growth was minimal, sometimes only a decimal point throughout the intervention, numbers rose. Participants showed evidence of increased self-awareness in their pre and post questionnaire and self-evaluation and graph. The researcher observed similar evidence through the daily observation form and daily self-reflection journal. In addition, participants recorded experiencing more mindfulness, were able to stay focused during a task, and had a willingness to continue to use mindfulness in the future to help them self regulate.

Discussion

The purpose of this action research project was to study effects on self-regulation when mindfulness lessons were given to students for six weeks. The intervention used The Mind Up Curriculum to teach about neuroscience and then how to apply mindfulness techniques to daily

CLASSROOM

life. Findings indicated mindfulness lessons helped participants become more self-regulated. Although results increased with all four data collections, scores only increased slightly.

The pre and post questionnaire showed the most significant increase. The pre questionnaire, revealed participants did not know the meaning of mindfulness. The pre questionnaire also showed that participants did not know if they would use mindfulness techniques in their daily life. When participants were given their post questionnaire, they understood the meaning of mindfulness and also exhibited interest in using these techniques each day. Participants displayed a fuller understanding of mindfulness and were able to understand its essence.

The research did find limitations with the questionnaire used in this study. Although the post questionnaire showed growth from the pre questionnaire, growth was minimal. Because participants did *not* know about the specifics of mindfulness, they scored themselves higher on the pre questionnaire. In addition, the statements on the pre and post questionnaire were not all articulated well enough to track the profoundness of the growth of mindfulness and self-regulation. When looking at data results, the researcher eliminated the first eleven statements, concluding those statements related to work attitude instead of the focus of this study, mindfulness. The researcher would not use the first eleven statements in future mindfulness studies.

Unfortunately, the participants' self-reflections and graph results could not be trusted during this study. A graph was used for students to fill in and track their self-regulation each day. The graph created with the daily self-reflection may have caused participants to give themselves higher daily scores: participants may have been enticed to score themselves higher because they

CLASSROOM

wanted to appear more mindful. Furthermore, participants may have found filling out the daily self-reflection each day monotonous. As the study went on, participants were turning in their self-reflection each day more and more rapidly, while giving themselves full points for the day. On occasion, when the researcher asked if daily self-reflections were taken seriously, many participants changed their answers from two points to one point. This study was conducted in the beginning of the school year. Some students were new to the classroom while others knew the researcher and may have thought of the study as an opportunity to earn a better grade in the class. Instead of having a point scale, the researcher could interview each child once a week to verbally give their self-reflection feedback. Also, the researcher would not include a graph with which participants could view their progress.

During the intervention, the researcher observed participants during the great work period, between 8:00AM and 11:00AM. The researcher was also teaching during this great work period, so times of observation were inconsistent. This observation time could be improved by selecting a specific time to observe. This way, a more consistent figure may be found. Typically, in the classroom, students aim to please at the beginning of the year. Because this study was conducted at the beginning of the year, the researcher would be interested in seeing the results mid way through the year when students have normalized.

The researcher journaled each day to collect qualitative data on the study. Although journaling added depth to the study, the researcher was not able to quantify results to add to the study. Results correlated with how the participants were behaving in class. The researcher noticed participants taking a deep breath before getting upset, allowing them to stay on task. The researcher also noted a pleasurable mood in the class as participants were able to self-regulate

CLASSROOM

and focus on the task at hand. The researcher was able to observe several interactions between students talking about their brains and their brains' functions as a way to help them stay focused. Because the researcher was also the teacher, observer, and mindfulness instructor, journal entries may have been skewed.

The sample size of participants was very limited. There were only twenty participants in the study. This makes it difficult to understand the results of 9-12 year olds across larger demographics. Also, the six-week time period was a constraint. Mindfulness lessons may need time to cultivate and flourish and may prove to be effective for participants in the their future. This intervention may be beneficial for participants in several years as they face new challenges in life.

As an extension to the mindfulness lessons, the researcher would also like to include a yoga practice into the daily routine. Mindfulness lessons were given in the morning and, typically, the mornings were quiet and productive. The researcher would also like to add an afternoon component with calming yoga and movement in conjunction to breathing and mindfulness techniques. The researcher is exceptionally satisfied with the positive results observed in the classroom and plans to continue mindfulness lessons with a desire for achieving more explicit results.

CLASSROOM

References

- Abbot, D., Diamond, A., Lawlor, M.S., Oberlander, T. F., Oberle, E., Schonert-Reichl, K., & Thomson, K. (2015). Enhancing cognitive and social–emotional development through a simple-to-administer mindfulness-based school program for elementary school children: a randomized controlled trial. *Developmental Psychology, 51*(1), 52-66.
- Anderson, A., Didden, R., Glassenbury, M., Lang, R., & Moore, D. W. (2013). Increasing on-task behavior in students in a regular classroom: effectiveness of a self-management procedure using a tactile prompt. *J Behav Educ. 22*, 302-311.
- Axelrod, M. I., Zhe, E. J., Haugen, K. A., & Klein, J. A. (2009). Self-management of on- task homework behavior: A promising strategy for adolescents with attention and behavior problems. *School Psychology Review, 38*(3), 325-333.
- Black, D. S., & Fernando, R. (2014). Mindfulness training and classroom behavior among lower-income and ethnic minority elementary school children. *Journal of Child and Family Studies, 23*(7), 1242-1246. <http://dx.doi.org/10.1007/s10826-013-9784-4>
- Bögels, S., de Bruin, E., Formsma, A., & van de Weijer-Bergsma, E. (2012). The effectiveness of mindfulness training on behavioral problems and attentional functioning in adolescents with ADHD. *Journal of Child and Family Studies, 21*(5), 775-787. <http://dx.doi.org/10.1007/s10826-011-9531-7>
- Goldin, P. R., Karunananda, A. S., & Talagala, P. D. (2016). Examining mindfulness in education. *I. J. Modern Education and Computer Science, 12*, 23-30.
- Haut, J. M., & Otero, T. L. (2016). Differential effects of reinforcement on the self-monitoring of on-task behavior. *School Psychology Quarterly, 31*(1), 91-103.

CLASSROOM

The Hawn Foundation. (2011). *The mind up curriculum: Brain-focused strategies for learning- and living*. New York: Scholastic.

Kabat-Zinn, J. (1994). *Wherever you go there you are: Mindfulness meditation in everyday life*. New York: Hyperion.

Lillard, A. (2011). Mindfulness practices in education: Montessori's approach. *Springer Science and Business Media*, 2, 78–85. [http://faculty.virginia.edu/ASLillard/PDFs/Lillard%20\(2011\).pdf](http://faculty.virginia.edu/ASLillard/PDFs/Lillard%20(2011).pdf)

Montessori, M. (1949). *The absorbent mind*. New York: Dell Publishing.

Perels, F. & Schmitz, B. (2011). Self-monitoring of self-regulation during math homework behavior using standardized diaries. *Metacognition Learning*, 6, 255-273.

Reid, R., Trout, A. L., & Schartz, M. (2005). Self-regulation interventions for children with Attention Deficit/Hyperactivity Disorder. *Exceptional Children*, 71(4), 361- 377.

CLASSROOM

Appendix A**Mindfulness Study
Parental Permission Form**

August 30, 2017

Dear Parents,

In addition to being your child's E2 teacher, I am a St. Catherine University student pursuing a Masters of Education. As a capstone to my program, I need to complete an Action Research project. I am going to study mindfulness in the classroom to help students focus on their work.

In the coming weeks, I will be giving 15 minute mindfulness lessons as a regular part of the school day. All students will participate as members of the class. In order to understand the outcomes, I plan to analyze the results of these mindful lessons to determine if students can focus and self regulate after mindful lessons are given.

The purpose of this letter is to notify you of this research and to allow you the opportunity to exclude your child's data from my study.

If you decide you want your child's data to be in my study, you don't need to do anything at this point.

If you decide you do NOT want your child's data included in my study, please note that on this form below and return it by September 8, 2017. Note that your child will still participate in the mindful lessons but his/her data will not be included in my analysis.

In order to help you make an informed decision, please note the following:

- I am working with a faculty member at St. Kate's and an advisor to complete this particular project.
- I will be conducting mindfulness lessons three times a week for 6 weeks, from September 11, 2017- October 20, 2017. Mindfulness lessons will be developed based on the The Mind Up Curriculum which contains brain-focused strategies for learning and living.
- I will be gathering data daily in a self reflection journal, daily observation form, student evaluation form, and a pre/post test.
- The benefits of your student participating in mindfulness lessons may include, improve self control and self regulation skills, strengthen decision making, boost enthusiasm for learning, increase academic success, develop positive social skills such as empathy, compassion, patience, and generosity, and reduce peer conflict.

CLASSROOM

- I will be writing about the results that I get from this research. However, none of the writing that I do will include the name of this school, the names of any students, or any references that would make it possible to identify outcomes connected to a particular student. Other people will not know if your child is in my study.
- The final report of my study will be electronically available online at the St. Catherine University library. The goal of sharing my research study is to help other teachers who are also trying to improve their teaching.
- There is no penalty for not having your child's data involved in the study, I will simply delete his or her responses from my data set.

If you have any questions, please feel free to contact me, ashleigh@lacscentmontessori.com. You may ask questions now, or if you have any questions later, you can ask me, or my advisor, Alisha Brandon at ajbrandon@stkate.edu, who will be happy to answer them. If you have questions or concerns regarding the study, and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at [\(651\) 690-7739](tel:(651)690-7739).

You may keep a copy of this form for your records.

Ashleigh Bartz

Date

OPT OUT: Parents, in order to exclude your child's data from the study, please sign and return by September 8, 2017

I do NOT want my child's data to be included in this study.

Signature of Parent

Date

CLASSROOM

Appendix B
Mindfulness Questions

Name _____ Date _____

5=Always Agree

4=Sometimes Agree

3=Neutral

2=Sometimes Disagree

1=Always Disagree

0=Not Sure

Read each statement and check the box that applies to you.

	0	1	2	3	4	5
I focus on my work.						
I focus while I am in a lesson.						
I can redirect my attention when I get distracted.						
I follow classroom expectations.						
I am respectful of others, the environment, and myself.						
I follow directions the first time they are given.						
I always complete my work.						
I am neat and do not rush my work.						
I listen when the teacher is talking.						
I listen when other students are talking.						
I work well with other students.						
I have control over my actions.						
I think about my brain's functions when needed.						

CLASSROOM

I can control my breathing.						
I have mindful listening.						
I have mindful seeing.						
I have mindful smelling.						
I have mindful tasting.						
I have mindful movements.						

What do you do to stay focused on a task?

What does mindfulness mean to you?

Would you like to use mindful techniques in your daily life?

If so, how would you use mindful techniques in your daily life?

CLASSROOM

Appendix C

Self Evaluation and Graph

Name _____

Date _____

Fill this out daily after the great work period.

2= I did this all day long.

1= I could be better at this.

0= I am not doing this.

	2 :)	1 :/	0 :(Total
I turned in everything I needed to today.				
My planner was filled out correctly.				
I had control over my actions.				
I stayed on task and did my work.				
I was neat and did not rush.				
I was respectful to others, my environment, and myself.				
I followed directions the first time they were given.				

CLASSROOM

Add up your total for the day and graph it.

14					
13					
12					
11					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
	Monday	Tuesday	Wednes day	Thursday	Friday

CLASSROOM

Appendix D

Date _____
 Time _____
 Total students _____

	Engaging in work	Not Engaging in work	Using work as a prop	Choosing work	Receiving help	Looking for help	Wandering Interfering	Wandering with purpose	Behaving Disruptively
	engaging in age-appropriate and concentrated work independently or in presentation	Not engaging in age-appropriate and concentrated work independently or in presentation	not engaging with material in front of him/her	in process of selecting and/or setting up work	consulting with or receiving direction from a teacher in class	Looking to consult and receive direction from a teacher	moving aimlessly or conversing without focus	Moving around room actively/appropriately observing a lesson or taking a brain break	yelling, defiant, leaving room, obvious misuse of materials
Tally									
Totals									

Notes:

Retrieved and edited from <http://public-montessori.org/wp-content/uploads/2016/12/NCMPS-Elementary-Observation-Rubric.pdf>

CLASSROOM

Appendix E

Daily Self Reflection Journal

Date _____

Unusual Classroom Events, if any (fire drills, visitors, weather, attendance, field trips) _____

Mindful Activities/ Name of book or cards used:

Reflection on lessons

Reflection on morning

Reflection on afternoon

Other thoughts
