Mindfulness: Action research examining the effectiveness of mindfulness in a Montessori small-group intervention setting

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Mindfulness in a Small-Group Intervention Setting

ABSTRACT

The purpose of this action research was to examine the effectiveness of short, regular sessions of mindfulness practice in reducing math anxiety and increasing academic performance in elementary-age students in a Montessori elementary school. This research was conducted in small-group, pull-out settings using one- to three-minute mindfulness exercises. The students were interviewed at the beginning and end of the study to gauge their anxiety level regarding math and testing. Prior to the beginning of mindfulness practice, a lesson was taught that described the benefits of mindfulness and its effects on the human brain. Students evaluated their emotions at the end of each small-group session to determine whether mindfulness was having an effect in the short term.

INTRODUCTION

This action research project stems from the researcher’s long-standing, personal challenges with anxiety. Throughout 12 years of working in schools, the researcher realized that many students struggle with the same anxieties. Sometimes, these students are aware of their anxiety, as are their families. These are the fortunate students who are receiving professional help and, in some cases, are learning how to advocate for themselves and their own needs. Many students, however, are not aware that what they are feeling is a mental illness, a disease like any other, and is not resulting from behavioral choices over which they are told they have full control. People with anxiety, both those who are aware of it and those who are unaware, struggle with a tremendous amount of guilt, feeling that they should be able to function the way the world dictates—“Everybody else manages to do it, so why can’t I” is a constant stream of thought for many people with anxiety.
The researcher observed that patterns of behavior indicating anxiety were fairly common in students whose home lives were difficult for any number of reasons. Examples of behavior included being impulsive, short-tempered, having difficulty starting classwork or planning ahead, and lacking ability to organize classwork. These symptoms were particularly obvious when working at an all-Somali charter school. Students at that charter school tended to come from backgrounds that included significant trauma either in their own immediate past or that of their parents or grandparents. The Somali families came to the U.S. as refugees from a civil war, and many had personally experienced significant violence. In the teacher trainings, the Somali elders taught us that the trauma also was affecting Somali children born in the U.S. The students exhibited behavior that was at times angry, impulsive, anxious, stressed, sad, manic, withdrawn, depressive. Sometimes they managed to be all of these things at the same time. These were traits exhibited by a large portion of the children in that school, making it difficult for staff to manage classrooms.

The researcher later worked at a public Montessori middle school where many students were exhibiting the same behaviors, but the teachers were committed to finding productive and helpful ways for students to gain control over their own emotions and behaviors. The idea was that students would learn to identify their emotions and work towards controlling them rather than asking teachers to attempt to control the emotions and behavior of 37 students at a time.

To that end, teachers received some beginning training in trauma-informed teaching and mindfulness. Professional development in the effects of toxic stress on the human brain, particularly the developing brain in young children, was highly informative. Teachers learned about how physiologically different from the norm are the brains of people who have been exposed to toxic stress at a young age. Brains of such children often are smaller in the areas that
control communication and executive function. Such brains have a larger number of synaptic
communication and light up more frequently on PET scans in the amygdala and limbic system,
which are areas of the brain that control emotions and the fight-or-flight instinct, among other
functions. In professional development, teachers learned that the developing brain grows
synaptic connections for conditions in which it most often finds itself. If the brain regularly is
flooded with the stress hormone cortisol, then the areas of the brain that are strengthened are the
amygdala and limbic system rather than the prefrontal cortex, which controls executive
functioning. This often means that the child ends up displaying behaviors linked with all of the
emotions listed above and lacking a strong prefrontal cortex to regulate emotional outbursts.

This trauma training was revelatory. Teachers who do not experience trauma training
might ascribe disruptive behaviors to the personal choices of students without looking at the
context involved with the making of those choices. This leads teachers to develop negative
stereotypes and impressions of students based on their behavior. However, if in fact these
children have brains that are wired differently due to prior exposure to constant toxic stress, then
the negative behavior of children should be seen more as a medical condition than as willful and
malicious wrongdoing.

While at the Montessori school, the researcher also participated in the Cincinnati
Montessori Secondary Teacher Education Program (CMSTEP). Participants were introduced to
both Mindful Schools and the work of Dr. Daniel Siegel and his work on child and adolescent
psychology. Mindful Schools is an organization whose mission is to bring regular practice of
mindfulness into schools to assist students in social and emotional control and to improve the
classroom and school environment. The participants in CMSTEP are required to complete a 6-
Mindfulness in a Small-Group Intervention Setting

week online mindfulness fundamentals course that introduces teachers to mindfulness and guides them through the beginnings of developing their own mindfulness practice.

In addition to the online course, the CMSTEP trainers incorporated mindfulness sessions into the curriculum that the Montessori teacher trainees were learning. Several of the CMSTEP trainers are licensed mindfulness trainers in addition to having their Montessori certification. These trainers incorporated regular mindfulness practice into their classroom routines because they feel that it is an important part of Montessori adolescent pedagogy. By modeling mindful practice within the training program, our Montessori trainers were giving us the tools to begin a mindful practice within our own Montessori programs.

The researcher became interested in mindfulness as a way to reduce anxiety and increase emotional control in myself and my students. Mindfulness is defined as “a mental state achieved by focusing one’s awareness on the present moment while calmly acknowledging and accepting one’s feelings, thoughts, and bodily sensations” (Oxford Dictionaries 2014). CMSTEP teaches that mindfulness is fully consistent with Maria Montessori’s views on the development of self-regulation in children. The curriculum for the Mindfulness Fundamentals course included units on mindfulness and the positive effects on brain development, particularly in the areas of emotional control and executive functioning. These articles are further explored in the literature review. Mindfulness practices that were taught in the course included mindful breathing, body scan, mindful walking, mindful eating, and gratitude journals. The length of mindfulness sessions began at 5 minutes and increased to 30 minutes by the end of the course, as students increased their stamina.

While participating in the mindfulness course, the researcher also was engaging in a Montessori certification project at the Montessori secondary school. This project involved doing
brief, daily mindfulness exercises with the students in co-taught classes. The researcher saw some positive changes in the adolescent Montessori classroom environment as a result of mindfulness practice. For example, actual class instruction started between 10 and 20 minutes earlier every day because students were already calm and the researcher’s co-teacher also was calm, so there was far less yelling and arguing at the start of class. However, the middle school students did not respond favorably to the materials the researcher used for mindfulness, so there was a lot of disengagement and nonparticipation—students drawing, sitting with their heads down, etc. These students would be quiet but would not actively participate. For this reason, most students did not experience the beneficial calming effects and increase in self-awareness that a regular mindfulness practice develops in its practitioners.

After leaving the Montessori secondary school, the researcher took a job at a Montessori elementary public charter school, working as a math specialist doing small pull-out math groups. This position resulted from a requirement by the charter school’s authorizer that measures be taken to increase math test scores and close the achievement gap between the school’s Caucasian students and its students of color.

Standardized testing generally is not regarded as compatible with Montessori pedagogy. However, in Minnesota, while charter schools are exempt from many of the requirements that pertain to regular public schools, they still are public schools and therefore are not exempt from the requirement to follow state and federal guidelines regarding proficiency-based standardized testing.

The head of school decided that a pull-out/push-in intervention model would be the way to address the authorizer’s concerns. However, Montessori pedagogy strongly discourages pulling students out of the classroom during the work cycle. The researcher was left with a
Mindfulness in a Small-Group Intervention Setting

collision between competing educational philosophies: Increase test scores on proficiency-based tests or follow the child according to Montessori pedagogy.

The researcher noticed that the children selected for the math groups due to their low math test scores often had math anxiety or test anxiety. These anxieties led to negative behaviors and language surrounding attendance at math group and difficulty focusing during math group. These are the students the researcher hoped to serve with this action research. The researcher is familiar with mindfulness being practiced on a whole-class scale. In fact, a few classrooms at the Montessori elementary school regularly practice a form of mindfulness. However, the researcher is not aware of anyone attempting to practice mindfulness in a small-group environment and so decided to create this action research project to see whether math group students could receive benefits from introducing a regular practice of mindfulness into small-group math sessions.

The original purpose of this action research was to examine the effectiveness of short, regular sessions of mindfulness practice in reducing math anxiety and increasing academic performance in elementary-age students. This action research was designed and conducted in alignment with this purpose. However, part of the way through the action research, the purpose broadened into questioning whether short sessions of mindfulness practice would have an effect on math anxiety or student behavior in a math-intervention small-group pull-out model.

LITERATURE REVIEW

This literature review provides theoretical underpinnings and arguments both supporting and critiquing the use of mindfulness as a tool in education. The material reviewed here informed the action research project, whose purpose was to examine whether short mindfulness exercises would reduce math anxiety and increase student academic achievement.
Mindfulness in a Small-Group Intervention Setting

This literature review begins by defining the terms “mindfulness” and “attention.” It reviews the history of mindfulness as both a Western psychological therapeutic practice and as part of a K-12 educational curriculum. This review also explores the neurological research surrounding mindfulness and Montessori support for the use of mindfulness, and finally offers some critiques of mindfulness as a therapeutic and educational tool.

**Definition of Terms**

For the purposes of this action research, mindfulness is defined as “a mental state achieved by focusing one’s awareness on the present moment while calmly acknowledging and accepting one’s feelings, thoughts, and bodily sensations.” (Oxford Dictionaries 2014)

The term “attention” in mindfulness means bringing something to the present moment in a nonjudgmental manner. There are two types of attention—passive and voluntary. Passive attention is the spontaneous attention given to something of interest, while voluntary attention is more deliberate…. voluntary attention is not sustained, lasting only seconds or minutes at a time, voluntary attention is momentary, requiring volitional recall and repeated attempts to bring one’s attention back to the original object of focus” (Kanagy-Borofka, 2013, p. 28-29).

**History of Mindfulness**

Mindfulness began as part of Buddhist meditation and evolved into a Western psychological therapeutic practice. The origins of the term “mindfulness” are found in the *Satipatthana sutra*, which is considered to be the foundational text for the practice of mindfulness. The word “mindfulness” is a translation of the Pali word *sati* as translated by T.W. Rhys-Davids in 1881 (Ergas, 2014). *Sati* also can be translated as “to be mindful.” The researchers Grossman and Van Dam argue that to be mindful is a more dynamic state, as opposed to mindfulness, which is a fixed and static trait (Grossman & Van Dam, 2011).
Mindfulness in a Small-Group Intervention Setting

The *Satipatthana* sutra teaches the four noble truths that are part of the foundation of Buddhist belief and are accepted by all Buddhist sects. These truths are:

- “dukkha, the truth of suffering
- *samudaya*, the reason for suffering
- *nirodha*, the state of the cessation of suffering (nirvana)
- *magga*, the path leading to the cessation of suffering (the eight-fold path)” (Ergas, 2014, p. 60).

Grossman and Van Dam argue that the Buddhist sutras see mindfulness as an active and evolving process, where mindfulness is not a state that a person achieves once but is rather a path with many distinct phases. Their interpretation of the sutras finds these particular features as part of mindfulness:

“(1) deliberate, open-hearted awareness of moment-to-moment perceptible experience; (2) a process held and sustained by stance of nonjudgmentalness and acceptance; (3) a practice of nondiscusive, non-analytic investigation of ongoing experience; (4) an awareness markedly different from everyday modes of attention; and (5) in general, a necessity of systematic practice for its gradual refinement” (Grossman & Van Dam, 2011, p. 221).

**Jon Kabat-Zinn and Western Psychology**

Jon Kabat-Zinn was a molecular biologist at the University of Massachusetts medical center and a personal practitioner of Zen Buddhist meditation. He became interested in the possible benefits meditation could provide to hospital patients. In 1979, he opened a small clinic that used mindfulness as its main therapeutic tool. He developed Mindfulness-Based Stress Reduction (MBSR), which became a fully developed therapeutic model. MBSRs are 8-week programs that involve exploring mindfulness in several ways:

- Attention to breath
Mindfulness in a Small-Group Intervention Setting

- Body scans
- Simple yoga (Ergas, 2014).

Kabat-Zinn intentionally secularized the Buddhist meditative practices so as to gain acceptance for them from the Western medical community. Mindfulness turned into a therapeutic treatment that was showing significant results in decreasing chronic stress, anxiety, and depression in adults who had not responded to other treatments. In the 1990s, MBSR programs became far more widespread. MBSRs were modified to treat other conditions, such as eating disorders, childbirth, cancer treatment, and parenting (Ergas, 2014). The medical community began to research mindfulness and the physiological reasons for the states of heightened bodily awareness and noticing that long-time practitioners of meditative practices report experiencing (Ergas, 2014).

Mindfulness in the past two decades has expanded greatly into research about working memory, attention span, executive functioning, and self-regulation. The medical science behind mindfulness and critiques of medical research into mindfulness are further explored in subsequent sections of this section (Ergas, 2014).

**Mindfulness and Education**

After the federal government passed the No Child Left Behind (NCLB) law in 2001, curriculum in schools became more focused on reading and math instruction in increasingly longer segments. In the last decade, states also have begun to adopt the Common Core academic standards, which require increased academic rigor in many school districts. These increased academic demands have left many students struggling to function in classrooms where students are expected to maintain concentration for increased periods of time (Kanagry-Borofka, 2013, p. 6-7).
Mindfulness in a Small-Group Intervention Setting

Mindfulness is beginning to be used in schools in the form of Mindfulness-Based Interventions (MBIs). These MBIs do not have any accepted standardized model in the way that MBSRs do. MBIs might be as short as 8 weeks or as long as several semesters. There are several groups, such as Mindful Schools, which have sought to develop mindfulness programs for children in schools. However, there is comparatively little research on the effectiveness of these MBIs for children (Liehr & Diaz, 2010). The research that has been done suggests that there are benefits to students who regularly practice mindfulness in their classrooms. Studies report increased academic performance, better interpersonal relations, and a reduction in stress levels (Zenner, Herrnleben-Kurz, & Walach, 2014). Some studies also report decreased levels of anxiety and depression in students (Liehr & Diaz, 2010).

However, the general critique of this research is that it tends to be more qualitative than quantitative due to both the nature of the research environment and the research subjects—K-12 schools and under-age children. The difficulty of doing research with protected classes of research subjects has made true experimental research into the area of mindfulness in education very difficult.

Mindfulness is being explored by teachers in their classrooms in small action research projects much like the one reported in this thesis. These projects seem to explore two main questions: Does mindfulness help children maintain attention for increased lengths of time? What effect does that have on academic achievement, the classroom environment, and students’ own social-emotional health.

Researcher Kristin Bonamo argues that attention is critically important in the process of learning. Attention involves more actively engaging areas of the brain that are responsible for information processing. She argues that attention is a critically important component of the
Mindfulness in a Small-Group Intervention Setting

information processing theory (IPT) theory. In IPT theory, learning involves integrating three types of memory, including sensory memory; short-term memory; and long-term memory. IPT theory suggests that the integration of these types of memory uses a process of encoding, storage, and recall. IPT states that encoding is attending to new information in the short-term memory and moving it into long-term memory. After information is stored in long-term memory, it can be recalled to working memory at a later date. Attention is a critically important part of the encoding, and therefore the learning, process (Bonamo, 2013).

The focus on attention in mindfulness and its practice of guiding the practitioner to bringing attention to the present moment in a nonjudgmental fashion has led researchers in schools to explore mindfulness as a way to reduce anxiety and negative feelings of stress and depression in students. The argument is that by bringing attention to the present moment in a nonjudgmental fashion, you minimize the time spent dwelling on negative associations (Bonamo, 2013). This is the theory as to why regular mindful practice seems to reduce anxiety in children and adults (Bonamo, 2013).

Research has shown that negative feelings and symptoms of stress, anxiety, and depression all interfere with cognition (Zenner et al., 2014). This could be why students who practice mindfulness show an increase in academic achievement (Zenner et al., 2014). Teachers who have conducted MBIs in their classrooms report an improved classroom environment and better self-regulation in their students. One such teacher is Julie Loland, who used an MBI with her fifth grade class. She lists the benefits of using mindfulness in her class as: “a relief of stress, an ability to make effective decisions, ability to orient attention, physical and emotional regulation, a decrease in negative emotions, self-acceptance, and an overall improved learning environment” (Tran, 2013).
Mindfulness in a Small-Group Intervention Setting

**Neuroscience of Mindfulness**

Over the last three decades, medical science has conducted an increasing number of studies to find the physiological reasons for the states of heightened bodily awareness, generally better mental health, and increased self-control that regular practitioners of mindfulness and meditative practices report experiencing. For example, practitioners of mindfulness claim to be able to use physiological signs such as muscle tightening or tingling in the extremities to alert them to changes in their mood. The ability to focus attention seems to have its roots in the part of the brain called the anterior cingulate cortex (ACC). Researchers believe that meditation increases the activation of the ACC, which is a system involved in switching between different neural networks that facilitates cognitive control (Hölzel, Lazar, Gard, Schuman-Olivier, Vago, & Ott, 2011). Researchers studying meditation practices have shown greater activation in the ACC in meditators as compared with non-meditators. They also have noted that the cortical thickness in the ACC is greater in experienced meditators when compared with control subjects (Hölzel et al., 2011). Regular practitioners of mindfulness and meditation claim to experience increased emotional regulation. Neurological research suggests that the area of the brain that controls emotional regulation are the prefrontal control systems, including the ACC, which controls the amygdala and hippocampus. The amygdala and hippocampus are partially responsible for emotion and memory. As stated previously, meditators show increased activation of the ACC. (Hölzel et al., 2011)

**Mindfulness and Montessori**

Although there are no formal mentions of mindfulness in the writings of Maria Montessori, the Montessori belief in developing the self-regulation of children can be seen as quite favorable to the use of mindfulness in a Montessori classroom. Indeed, Montessori taught
an exercise called “making silence,” where all of the children in a room sit in a circle and are silent. However, she had a strong belief in the development of concentration as a way for children to organize themselves and build character.

“The first work the child has to do is to find the way and the means to concentration, which lays the foundations of the character and prepares social behavior. This immediately shows the importance of the environment, because no one will be able to give concentration or to organize the child from without. He has to organize himself” (Montessori, 2012, p. 187).

Montessori advocated for children to develop socially and emotionally by being allowed to solve their own problems, including their interpersonal problems. For example, Grace and Courtesy lessons are taught in Montessori classrooms because they encourage the development of skills that allow for students to independently resolve conflicts. Indeed, Montessori is strongly of the opinion that teachers should not be involved in conflict resolution. In The Absorbent Mind, Montessori states that “The interference of the adult in this adjustment of social behavior is almost always wrong….If the adults step in to adjust, the children get nervous, but if they are left alone, they solve them peacefully.” (Montessori, 2012, p. 189)

Mindfulness can be seen as another tool to allow students to solve their own conflicts peacefully. Mindfulness also can be seen as a tool to help create the prepared environment, which is the way that Montessori describes the classroom and the school. The prepared environment is meant to facilitate the students’ independent acquisition of knowledge. Marta Donahoe, a Montessori teacher, trainer, and scholar, argues that it is important to bring mindfulness to all rituals of the classroom and the school. In her article The Way We Gather, she states, “The way we gather is the way our school days (classrooms, staff meetings, etc.) go. In other words, the mindfulness we bring to the little ways we behave with each other sets the tone
Mindfulness in a Small-Group Intervention Setting

for the entire organization” (Donahoe, 2010, p. 1). Mindfulness is entirely compatible with the philosophy and writings of Maria Montessori.

**Critique of Mindfulness as Medicine**

Although there have been reports of parent resistance to MBIs being used in their children’s classrooms (Kanagy-Borofka, 2014), this researcher could find little to no critique of the scientific support for using mindfulness in classrooms. However, there is a growing body of criticism coming from the practitioners of Buddhist meditation. They argue that by de-emphasizing the spiritual roots of mindfulness and turning it into an oversimplified concept that can be studied scientifically, the full meaning and effect of mindfulness is lost.

Authors Grossman and Van Dam argue that the translation of *sati* as “mindfulness,” instead of “to be mindful,” encourages researchers to view mindfulness as a trait that can be measured instead of as a life-long developmental process of searching (Grossman & Van Dam, 2011). They further argue that the researchers who study mindfulness do not adequately understand the Buddhist roots of mindfulness, so the measurement tools that they create do not really measure mindfulness at all (Grossman & Van Dam, 2011). They take particular aim at mindfulness inventories and questionnaires, regarding them as inaccurate measures of concepts that the researchers do not fully understand (Grossman & Van Dam, 2011).

The researcher Oren Ergas takes a different approach in his objections. He feels that narrowing and operationalizing mindfulness has allowed Western medical practitioners to embrace mindfulness as a treatment but robbed it of most of its value. He also feels that the way in which mindfulness currently is used in schools is not so much a developmental aid for children as it is a way of controlling them. He asks:

“Is it a more sophisticated mode of domination? Are we now moderating stress levels of students with ‘just the right dosage’ to keep them ‘on track’? Is mindfulness practice becoming a healthier
Mindfulness in a Small-Group Intervention Setting

Ritalin that is so easily prescribed these days so that students would finally sit down and study?” (Ergas, 2014, p. 66)

He questions whether mindfulness is being used as another tool “incorporated as a technology that makes students more receptive to ‘information’ eventually serving the ‘greater cause’ of higher achievements and bottom lines” (Ergas, 2014, p. 66).

Conclusion

The literature suggests that there is medical science to support mindfulness as a tool to decrease anxiety in adults and children (Zenner et al., 2014; Hölzel et al., 2011). There is additional research that suggests that mindfulness can increase the academic success of children and increase their ability to bring attention to tasks (Zenner et al., 2014). However, there seemed to be no evidence of action research conducted using short, one- to three-minute mindfulness exercises and whether such exercises would have the same beneficial effects. Additionally, it is important to frame mindfulness as a beneficial lifelong practice for students rather than as an eight-week intervention designed to get kids to sit still. The former expresses mindfulness as an opportunity for students to learn to control their own emotions and the latter implies that their emotions still are being controlled by adults. Conducting this action research project could add new information to the growing body of research in the field of mindfulness in education.

RESEARCH METHODS

The purpose of this action research was to examine the effectiveness of short, regular sessions of mindfulness practice in reducing math anxiety and increasing academic performance in elementary-age students. These mindfulness sessions were between one and three minutes in length and occurred between three and five times each week. The mindfulness sessions took place in a math pull-out group. Mindfulness is defined by John Kabat Zinn as “The awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally
Mindfulness in a Small-Group Intervention Setting

to the unfolding of experience moment by moment.” Research by Charlotte Zenner has shown that longer sessions of mindfulness practice have academic and emotional benefits for students. This study sought to discover whether shorter interventions can be as effective.

**Action Research Setting**

This action research took place for three weeks during March 2017 in a Montessori elementary charter school in a mid-sized, diverse Midwestern city. The school serves 208 students aged 16 months through sixth grade. The student body is 5 percent Asian, 37 percent Black, 9 percent Hispanic, 2 percent Native American, and 48 percent Caucasian. The free and reduced-price lunch rate is 49 percent.

The action research was conducted across seven math pull-out groups encompassing students in third through sixth grades. Each group session lasted 30 minutes. The fourth-, fifth-, and sixth-grade groups met five days each week. One third-grade group met four days per week, and two other third-grade groups met three days a week. These group sessions were held in a mixed-use space that is shared among the math specialist, the reading specialist, and the media specialist; it includes the school’s computer lab.

**Action Research Participants**

There were 14 students who participated in the action research. They ranged in age from 9 to 12 years. The group included one student in sixth grade, two students in fifth grade, four students in fourth grade, and seven students in third grade. Two students self-identified as Mexican-American, eight students self-identified as Black, two students self-identified as Native American, and two students self-identified as Caucasian. Eight students were identified as needing special education and had individualized education plans (IEPs). One student had a 504
Mindfulness in a Small-Group Intervention Setting

plan, which is a legal document that requires accommodations for a student who has medical needs. One student identified as transsexual.

**Research Methodology**

This action research was conducted using a mixed methods methodology; the researcher deemed that a mixed methods approach would provide the most complete body of data. The action research was constructed using mostly qualitative methods, such as interviews and field notes. However, it also included a simple quantitative evaluation tool. The interviews and field notes were included to provide more detail, whereas a number line section on the interview tool and the evaluation tool were included to provide numerical data that could be analyzed.

One-on-one pre and post interviews were conducted with each student. The interview tool (a questionnaire) included four questions that were designed to gauge the students’ anxiety around math work and math tests. After these interviews were complete, the researcher taught an introductory lesson about mindfulness to each of the seven small groups. This lesson included three videos that explained the brain chemistry surrounding stress and anxiety and how mindfulness can help. These three videos were designed to reach different age levels of students; all three were used because they covered slightly different information.

The first video was a rap song called “Don’t Flip Your Lid,” which described the brain chemistry behind anger and advocated the use of mindfulness to prevent violent outbursts. The second video showed young children describing how they feel when they are angry or stressed and how mindfulness makes them feel. The last video shows Dr. Daniel Siegel demonstrating his five-finger model of the human brain and explaining how mindfulness can be used to help children (refer to Mindfulness Videos in Appendix B).
Mindfulness in a Small-Group Intervention Setting

After teaching the introductory lesson, the math groups started regular mindfulness practice using a Tibetan prayer bowl to signal the start and end of each mindfulness session. The researcher read from a script for each of the mindfulness sessions (refer to Mindfulness Scripts in Appendix B). These scripts were collected from various websites promoting mindfulness and were from sources recognized from research. There were four mindfulness sessions focused on mindfulness of breath, one session focused on conducting a body scan, and two sessions of mindful eating.

Mindfulness of breath focuses on bringing students’ attention to their breath as an anchor point and nonjudgmentally labeling stray thoughts. The body scan guides students to focus on different parts of the body and whether they are feeling any sensations in the parts of their body. For example, a student might notice that their jaw is clenched or their fingers are wiggling. Mindfulness teaches that these are physical manifestations of emotions. Mindful eating focuses on eating a small piece of food using all five of the senses. Students observe their food before eating, touch their food, and chew the food slowly noticing all the sensations of food in their mouth. This mindfulness exercise is meant to teach objective noticing of the present moment and to increase focus.

Each small-group session started with a mindfulness exercise that lasted between one and three minutes. Students were not required to actively participate in the mindfulness exercises, but they were required to sit quietly so as to not disturb the students who were participating. At the end of each group session, students filled out an evaluation tool (the emoji tool) that was designed to get a quick sense of their emotional state at the end of the group session. All students filled out this tool, regardless of whether they had participated in mindfulness practice that day. This tool was designed to see whether there was a relationship between the students’
Mindfulness in a Small-Group Intervention Setting

participation in mindfulness and their emotional state at the end of the group sessions and also to check whether students who did participate in mindfulness were still noticing any effect on their emotional state 25 minutes after engaging in the mindfulness exercise.

At the end of each school day, the researcher recorded field notes and observations about each math group. These notes were recorded in a notebook and also on the back of the emoji slips. In general, these notes covered observations regarding student participation in the mindfulness exercises and general observations regarding student behavior during math group.

The Questionnaire

The mindfulness questionnaire was designed to probe students’ feelings of anxiety surrounding math group attendance, math homework, participation in math group, and math tests. While developing the action research project, these were four areas where students were observed displaying signs of anxiety, including arguing, complaining, lack of focus, avoidance, and work refusal. The questionnaire was designed with two parts: A simple number line to allow students to quickly self-assess their level of anxiety and/or focus and a written free-response section to allow them to provide greater detail. The researcher recorded student oral responses in the free-response section. This promoted a deeper student response because they were not asked to write down anything. This questionnaire was administered in a one-on-one interview with each student both prior to the mindfulness instruction and at the conclusion of the action research.

The questionnaire that follows was used in the pre and post interviews.
Mindfulness Questionnaire

Name_________________________________________________Date____________________

Please circle the number that best describes how you feel.

1) How do you feel when you come to math group?
   Anxious-----------------------------Calm/Focused
   1  2  3  4  5  6
   Please also write a sentence or two that describes how you feel when you come to math group.

2) How do you feel when you do your math homework?
   Anxious-----------------------------Calm/Focused
   1  2  3  4  5  6
   Please also write a sentence or two that describes how you feel when you do your math homework.

3) How well do you focus during math group?
   Can’t stay focused-----------------Focused the whole time
   1  2  3  4  5  6
   Please also write a sentence or two that describes how well you focus during math group.

4) How do you feel when you take a math test?
   Anxious-----------------------------Calm/Focused
   1  2  3  4  5  6
   Please also write a sentence or two that describes how you feel when you take a math test.
The Emoji Evaluation Tool

The emoji evaluation tool was designed to see whether the mindfulness practiced at the beginning of math group was having any effect on students by the end of the group session—approximately 25 minutes after they had concluded the mindfulness exercise. The tool is a simple half-sheet of paper with three emojis corresponding to different emotional states—calm/focused, stressed, and excited. Students added their name and the date. Students were asked to circle the emoji that most closely corresponded with their emotional state while they were filling out the tool. Students were asked to circle one of the emojis provided instead of drawing one of their own in order to make analysis of results more consistent.

Emoji Evaluation Tool

Name_____________________________________________ Date____________________

Please circle the emoji that best describes how you feel right now.

Calm/Focused       Stressed      Excited

The emoji tool was used in two ways. It was given to both students who had participated in mindfulness exercises and to those who hadn’t. The researcher noted participation or nonparticipation on the back of each slip. The results were analyzed to see whether there was any
Mindfulness in a Small-Group Intervention Setting

correlation between participation in mindfulness exercises at the beginning of math group and being calm and focused at the end of group. These results are discussed further below.

The Students

The students chose a name to be used in the study. Many chose names based on their favorite sports player or singer. Due to absences, group scheduling, and field trips, there were no students who participated in all eight mindfulness lessons.

Felika

Felika was in sixth grade. He would close his eyes, assume his approximation of the lotus position, and try his best to remain calm and focused on mindfulness. He made repeated efforts to bring his body back to stillness. He filled out six emoji slips and participated in mindfulness on all six of those days. On five days, he reported being calm/focused and on one day he was excited.

Beyonce

Beyonce is in fifth grade. She tried her best to participate in mindfulness but reported being very distracted by all the noise in the surrounding environment, particularly the reading pull-out group that met in the same location. She filled out six emoji slips. On the three days when she participated in mindfulness, she reported being calm/focused at the end of math group. On the three days when she did not participate in mindfulness, she reported being stressed. The researcher also observed that it was easier for Beyonce to successfully participate in mindfulness if the reading group did not enter the room until after the mindfulness exercise was over.

Perri

Perri is in fifth grade. She participated well in mindfulness. However, she was continually struggling to bring her body and mouth to stillness. The mindfulness scripts that were used
incorporated gentle reminders to return to focus without judgment. Whenever one of these parts was read aloud, she would return her body to stillness. She filled out six emoji slips. She participated in mindfulness on five of these days and reported being calm/focused. On one day she did not participate in mindfulness but sat quietly, and she reported being calm/focused.

**Brian**

Brian is in fourth grade. He willingly participated in mindfulness but was easily distracted. He filled out five emoji slips. He participated in mindfulness on four days. On two of those days he reported being calm/focused, and on two days he reported being excited. On the day he did not participate in mindfulness, he reported being stressed.

**Justin**

Justin is in fourth grade. He was eager to participate in mindfulness on some days, but if he was angry when he was picked up for group, he would not participate in mindfulness. He also struggled with bringing his body to stillness. He filled out six emoji slips. On the three days when he participated in mindfulness, he reported that he was excited on one day and calm/focused on two days. On the three days when he did not participate in mindfulness, he reported being stressed on two days and excited on one day.

**Jamal**

Jamal is in fourth grade. He was not very interested in mindfulness. He would always sit quietly so that he wouldn’t distract the other students, but he would not actively participate until mindful eating. He filled out five emoji slips. On the one day when he participated in mindful eating, he reported being calm/focused. On the four days when he did not participate in mindfulness, he reported being calm/focused on one day, excited on two days, and stressed on one day.
Mindfulness in a Small-Group Intervention Setting

Arianna

Arianna is in fourth grade. She willingly participated in mindfulness but struggled mightily with staying focused. She often came to math group very upset because she was anxious about work she was missing in the classroom. On those days, she had difficulty focusing on the mindfulness exercise. She filled out six emoji slips. On the four days when she participated in mindfulness, she reported being calm/focused on one day, excited on one day, and stressed on two days.

Cam

Cam is in third grade. She was a champion at mindfulness. She closed her eyes and appeared to focus despite children literally falling on the floor, yelling, and singing around her. She filled out five emoji slips and participated in mindfulness on all five days. She reported being excited on three of those days and being calm/focused on two days.

Lebron

Lebron is in third grade. His observations of himself in the questionnaire and on his emoji slips as very calm and focused do not match the researcher’s observations of him. During mindfulness, he often struggled to bring his body and mouth to stillness. After mindfulness during math group, he was observed singing, dancing, and getting out of his chair and moving around the room. On one occasion, he fell off his chair. He filled out four emoji slips and participated in mindfulness on all four days. On three days, he reported being calm/focused and on one day he reported being excited.

Rose

Rose is in third grade. She was often confused and concerned about the MCA test (state-wide standardized test) that is coming up. Her math group began MCA test prep during the
Mindfulness in a Small-Group Intervention Setting

middle of the action research, and she reported that this increased her anxiety. She participated willingly in mindfulness, but she was absent frequently. She filled out four emoji slips and she participated in mindfulness on all four days. On two of those days, she reported being excited, on one day she was stressed, and on one day she was calm/focused.

**JuJu**

JuJu is in third grade. She was often anxious about coming to math group due to some interpersonal conflict that she was having with one of the other students in the group. JuJu showed the most severe math anxiety of all the students in terms of observed behavior. She expressed significant anxiety about the MCA test prep, which her group started working on during the middle of the action research. She did make an effort to participate in mindfulness. She filled out five emoji slips and participated in mindfulness on four days. On all four of those days she reported being stressed. On the day when she did not participate in mindfulness, she also reported being stressed.

**Jasmine**

Jasmine is in third grade. She was often absent from math group due to other scheduled commitments. She reported in her questionnaire that she was often anxious about coming to math group because she missed so much time out of the classroom during the day due to her heavy pull-out schedule, and she was concerned that she could not complete her classroom work. Jasmine was not often interested in participating in mindfulness, except when mindful eating was the exercise. She filled out four emoji slips and participated in mindfulness on one day. On the day she participated in mindfulness, she reported being stressed. On the three days when she did not participate in mindfulness, she reported being stressed. All of these reactions on the emoji tool were attributed to MCA test prep.
Mindfulness in a Small-Group Intervention Setting

Josh

Josh is in third grade. He was very frequently absent from math group. He did engage in mindfulness on the days when he was in math group, but he was there for so few days that there is very little data for him. He filled out two emoji slips and participated in mindfulness on both days. He reported being calm/focused on one day and he reported being stressed on one day. He was one of the only students to directly mention mindfulness in his post interview comments. In response to question 1, he said he liked mindful eating, but it was hard to stay focused during mindful breathing.

Harley

Harley is in third grade. She was often absent from math group. She willingly participated in mindfulness or sat quietly if she was not participating. She filled out three emoji slips and participated in mindfulness on two days. On the two days when she participated in mindfulness, she reported being calm/focused. On the one day when she did not participate in mindfulness, she reported being stressed.

RESEARCH RESULTS AND CONCLUSIONS

Research Results

Four out of fourteen students definitely indicated greater feelings of calm during math group. Although most students did report greater levels of calm and focus, these changes often were either too small (+ 1) to be significant or, in the case of larger positive changes, the students’ comments attributed those positive changes to other outside sources. Felika was the only student who clearly linked greater calm to mindfulness. There were also three students (Perri, JuJu, and Rose) who reported being significantly more anxious either at group or while doing homework. Perri attributed her lack of focus doing homework to increased distraction at
Mindfulness in a Small-Group Intervention Setting

Home. Rose and JuJu both reported that MCA test prep at math group was the cause of increased anxiety. Jasmine made comments that the researcher recorded in field notes which indicated that she was very anxious about MCA test prep. She also was observed walking out of the room, hiding under the table, and refusing to work on the test prep materials. However, she did not report any significant changes in her post interview, either on the number line or in her comments. Finally, JuJu also reported increased anxiety due to significant interpersonal problems with another student in math group.

The students responded very favorably to the emoji tool. They often wanted to draw their own emojis in order to get just the right nuanced emotion. On several occasions, students would circle an emoji and then draw their own emoji underneath to describe a related emotion. For example, Jasmine would circle the stressed emoji and then draw an irritated emoji. However, alternative emojis were not included in the analysis of results in order to maintain consistency. The students found the emoji tool to be a useful and quick way to express how they were feeling at the end of math group.

Table 1 reports the results of the pre and post interviews. There is a column for the number ranking that each student self-reported for both the pre and post interviews and a column to show the degree of change. Positive numbers show that a student has moved toward the calm/focused end of the scale; negative numbers show that a student has moved toward anxiety. There is a column for student comments. Many of the student comments were identical in content in both pre and post interviews. In places where comments are not identical, the content from the post interview appears in the table because it illustrated the change in the student’s self-reported evaluation.
## Table 1

### Results from Questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-interview</th>
<th>Post-interview</th>
<th>Change</th>
<th>Student Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Felika</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>1</td>
<td>6</td>
<td>+ 5</td>
<td>Feels calm now when he comes to math group due to the prayer bowl and mindfulness.</td>
</tr>
<tr>
<td>2.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>5</td>
<td>+ 1</td>
<td>Focus improves with quiet and teacher interaction.</td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Beyonce</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>5</td>
<td>+ 2</td>
<td>Works with mother on homework now.</td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Perri</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>5</td>
<td>6</td>
<td>+ 1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>6</td>
<td>3</td>
<td>- 3</td>
<td>Increase in distraction at home.</td>
</tr>
<tr>
<td>3.</td>
<td>5</td>
<td>4</td>
<td>- 1</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>6</td>
<td>1</td>
<td>- 5</td>
<td>MCAs getting closer, causing anxiety.</td>
</tr>
<tr>
<td><strong>Brian</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>5</td>
<td>6</td>
<td>+ 1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>3</td>
<td>+ 1</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Justin</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>4</td>
<td>5</td>
<td>+ 1</td>
<td>Feels calm now when he does his homework.</td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>5</td>
<td>+ 4</td>
<td>Calm and quiet environment at group helps him focus. Loud noises make him anxious.</td>
</tr>
<tr>
<td>3.</td>
<td>2</td>
<td>6</td>
<td>+ 4</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Jamal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>6</td>
<td>5</td>
<td>- 1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>5</td>
<td>4</td>
<td>- 1</td>
<td></td>
</tr>
<tr>
<td><strong>Arianna</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>2</td>
<td>4</td>
<td>+ 2</td>
<td></td>
</tr>
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### Mindfulness in a Small-Group Intervention Setting

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-interview</th>
<th>Post-interview</th>
<th>Change</th>
<th>Student Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>2</td>
<td>3</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1</td>
<td>4</td>
<td>+3</td>
<td>She focuses better for some types of math than others.</td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>2</td>
<td>+1</td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Cam</th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>3</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td></td>
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<table>
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<tr>
<th>Lebron</th>
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</tr>
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<tbody>
<tr>
<td>1.</td>
<td>6</td>
<td>5</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>5</td>
<td>6</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>6</td>
<td>5</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td></td>
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<table>
<thead>
<tr>
<th>Rose</th>
<th></th>
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</tr>
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<tbody>
<tr>
<td>1.</td>
<td>6</td>
<td>5</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>5</td>
<td>4</td>
<td>-1</td>
<td>Math homework getting harder. More anxiety.</td>
</tr>
<tr>
<td>3.</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>2</td>
<td>-2</td>
<td>Worried, very anxious about MCAs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JuJu</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5</td>
<td>2</td>
<td>-3</td>
<td>MCA test practice at group is causing anxiety. The math problems are too hard.</td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>6</td>
<td>+4</td>
<td>Mom has started helping at home.</td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>1</td>
<td>-3</td>
<td>Significant problems with another student in group.</td>
</tr>
<tr>
<td>4.</td>
<td>3</td>
<td>5</td>
<td>+2</td>
<td>Getting testing accommodations is helping.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jasmine</th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5</td>
<td>4</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3</td>
<td>4</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Josh</th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4</td>
<td>5</td>
<td>+1</td>
<td>Liked mindful eating, breathing, hard to focus.</td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3</td>
<td>5</td>
<td>+2</td>
<td>More focused but gets distracted being funny.</td>
</tr>
<tr>
<td>4.</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Harley</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3</td>
<td>5</td>
<td>+2</td>
<td>Feels more calm.</td>
</tr>
</tbody>
</table>
### Conclusions

The original purpose of this action research was to determine whether short one- to three-minute sessions of mindfulness would decrease students’ math anxiety and increase student achievement. As the action research project unfolded, the original purpose grew to become an exploration of whether mindfulness would be beneficial for use by interventionists and specialist teachers who often are working with students for short periods of time in noisy spaces.

In analyzing the results of the pre and post interviews, the researcher concludes that there were no direct benefits of mindfulness on decreasing anxiety in the majority of students. Only one student, Felika, directly linked his decreased anxiety to mindfulness. However, students did make small gains in decreasing their anxiety. This might be attributable to mindfulness, but many of the gains were too small to be considered statistically significant. Only two of the 14 students reported a decrease in test anxiety; one of the students, JuJu, reported that her decreased test anxiety was due to receiving testing accommodations. Several students—Perri, Rose, Jasmine, and JuJu—reported increased anxiety due to the content of math group switching to MCA test prep halfway through the action research. This is exactly the kind of anxiety that mindfulness is meant to mitigate.

As the action research broadened to examine whether mindfulness is useful for teachers who work with pull-out or push-in groups for short amounts of time in noisy environments, the emoji tool became very useful for evaluating the emotional state of the students at the end of each group session. There, the benefits are much clearer, although they do not match in with the

<table>
<thead>
<tr>
<th>Question</th>
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<th>Change</th>
<th>Student Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>6</td>
<td>NA</td>
<td>NA</td>
<td>No longer gets homework.</td>
</tr>
<tr>
<td>3.</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>


original purpose of the action research. Eight of the 14 students reported being calm/focused at the end of group sessions when they had participated in mindfulness. Those students who did not participate in mindfulness often reported feeling stressed or excited, and only rarely reported being calm/focused.

This is not surprising. Classroom teachers have known for years that some kind of centering activity is beneficial before starting instruction. In the Montessori elementary school where the research took place, several teachers incorporate centering activities, in particular the Montessori exercise called “making silence.” In this researcher’s experience, however, intervention teachers do not often use centering activities, such as one to three minutes of mindfulness, in their daily lessons because they feel they do not have time to include such activity. What the data gathered from use of the emoji tool shows is that there is benefit to the students by starting with a calm, centering activity such as mindfulness, because these students are maintaining their calm/focused feelings throughout the 30-minute group session.

Perhaps with regular use, more students would choose to participate in mindfulness and the benefits of the calm/focused condition would spread throughout the small group. This researcher intends to continue to use both the questionnaire and the emoji tool in her practice, because they do provide valuable data to the classroom teacher about how students are feeling. Montessori adolescent pedagogy requires that students use self-reflection tools to evaluate their academic and social/emotional progress. This emoji tool seems like an effective elementary version of a self-reflection tool.
Limitations

There were several limitations noted in this action research that color the results, primarily the length of the action research and the lack of quiet in the setting in which it was conducted.

There were only eight sessions of mindfulness over the three-week period. This was due to needing days for individual interviews, professional development days, and field trips. Taking into account the very short length of the action research, it would be worth pursuing a similar model of action research for a much longer period of time—like maybe 20 to 30 sessions of mindfulness exercises.

The researcher occupied one-quarter of a classroom that also included space for the reading specialist and the computer lab. This meant that there were often other activities going on during mindfulness practice. The researcher observed that students would lose focus and become distracted by sounds from the computers and conversation occurring in a nearby reading group. Several students, particularly Beyonce and Perri, complained that the noise in the classroom made it difficult for them to fully engage in mindfulness practice.

Implications

While this action research was too short and the distractions too significant to really provide a reliable picture of whether short periods of regular mindfulness practice would work as a tool for helping students manage anxiety, it did provide some indication that even short bursts of mindfulness can increase feelings of calm and focus. It would be worthwhile to replicate this action research with a much longer time period for data collection in a quieter setting.

It also would be worthwhile to do separate studies in Montessori adolescent environments using the emoji tool and the questionnaire regularly in a math classroom to inform teacher
Mindfulness in a Small-Group Intervention Setting

instruction and determine whether increased information about students’ math anxiety would lead to modified math instruction and decreased student anxiety.
References


Tran, L. (2013, January/February). Breath in, breath out: Getting kids ready-to-learn through physical, mental, and emotional health. Teach/Le Trof., 5-8.

Appendix A

Forms

This appendix contains examples of the questionnaire and emoji evaluation tool that were used in the action research.

Mindfulness Questionnaire

Name_________________________________________________Date____________________

Please circle the number that best describes how you feel.

1) How do you feel when you come to math group?
Anxious------------------------Calm/Focused

1  2  3  4  5  6

Please also write a sentence or two that describes how you feel when you come to math group.

2) How do you feel when you do your math homework?
Anxious------------------------Calm/Focused

1  2  3  4  5  6

Please also write a sentence or two that describes how you feel when you do your math homework.

3) How well do you focus during math group?
Can’t stay focused-------------------Focused the whole time

1  2  3  4  5  6

Please also write a sentence or two that describes how well you focus during math group.

4) How do you feel when you take a math test?
Anxious------------------------Calm/Focused

1  2  3  4  5  6

Please also write a sentence or two that describes how you feel when you take a math test.
Emoji Evaluation Tool

Name_____________________________________________Date____________________

Please circle the emoji that best describes how you feel right now.

Calm/Focused          Stressed          Excited
Appendix B

Resources for Mindfulness Practice

This appendix contains the materials used in and developed for the action research. It includes the lesson plan used for introducing mindfulness, information about the videos used to introduce mindfulness, and the scripts used to introduce each of the types of mindfulness practice used during action research.

Mindfulness Introduction Lesson Plan

Introduction

Introduce idea of mindfulness to students. Speak generally about what mindfulness is.

Accessing Prior Knowledge

Remind students that we had discussed the action research a few months previously. Let students know we are finally ready to start the action research. Ask students whether they have previously done mindfulness practice in the classroom, outside of school, or in student support services.

Content

Show three videos introducing mindfulness and the brain science behind it.

Describe Action Research

Introduce the permission slip. Let students know all of the legal information surrounding their participation, the freedom to turn down participation, etc.

Take Questions
Mindfulness Videos

This section includes information about the videos used to introduce students to mindfulness.

"Don't Flip Your Lid" [https://www.youtube.com/watch?v=he-fW9_3egw](https://www.youtube.com/watch?v=he-fW9_3egw)
Performed by Glenview Elementary of Madison, WI
Posted to YouTube June 22, 2015

“Mindfulness and the Brain-Hand Model”
[https://www.youtube.com/watch?v=vESKrzvgA40&t=207s](https://www.youtube.com/watch?v=vESKrzvgA40&t=207s)
Posted to YouTube April 16, 2013

Blurb from YouTube video:
Interpersonal Neurobiology. Dan Siegel, M.D., a clinical professor at the UCLA School of Medicine, codirector of the Mindful Awareness Research Center, executive director of the Mindsight Institute, and the founding editor of the Norton Series on Interpersonal Neurobiology. His books include *The Developing Mind, Mindsight*, and *The Mindful Therapist*. The interactions we have with one another shape our mental world. Why Neuroscience Matters. Psychotherapy when based on a trusting, safe and emotionally significant relationship (right to right brain) helps the rational left brain soothe and modulate the affective right hemisphere, and the cortex in general to exert top-down inhibition of the emotion-generating limbic system.

“Just Breathe”
[http://www.mindfulschools.org/resources/explore-mindful-resources/](http://www.mindfulschools.org/resources/explore-mindful-resources/)
A film showing children talking about handling difficult emotions with mindfulness, by Julie Bayer Salzman and Josh Salzman, Wavecrest Films
Posted to YouTube January 28, 2015.
Mindfulness in a Small-Group Intervention Setting

Mindfulness Scripts

This section includes the scripts that were used as daily mindfulness exercises.

Guided Meditation on the Breath Script

This guided meditation on the breath will help you learn to simply be and to look within yourself with mindfulness and equanimity. Allow yourself to switch from the usual mode of doing to a mode of non-doing. Of simply being. Sitting in an erect posture, either on a straight back chair or on a cushion. As you allow your body to become still, bring your attention to the fact that you are breathing. And become aware of the movement of your breath as it comes into your body and as it leaves your body. Not manipulating the breath in any way or trying to change it. Simply being aware of it and of the feelings associated with breathing. And observing the breath deep down in your belly. Feeling the abdomen as it expands gently on the inbreath, and as it falls back towards your spine on the outbreath. Being totally here in each moment with each breath. Not trying to do anything, not trying to get any place, simply being with your breath. Giving full care and attention to each inbreath and to each outbreath. As they follow one after the other in a never ending cycle and flow.

You will find that from time to time your mind will wander off into thoughts. When you notice that your attention is no longer here and no longer with your breathing, and without judging yourself, bring your attention back to your breathing and ride the waves of your breathing, fully conscious of the duration of each breath from moment to moment. Every time you find your mind wandering off the breath, gently bringing it back to the present, back to the moment-to-moment observing of the flow of your breathing. Using your breath as an anchor to focus your attention, to bring you back to the present whenever you notice that your mind is becoming absorbed or reactive. Using your breath to help you tune into a state of relaxed awareness and stillness.

Now as you observe your breathing, you may find from time to time that you are becoming aware of sensations in your body. As you maintain awareness of your breathing, see if it is possible to expand the field of your awareness so that it includes a sense of your body as a whole as you sit here. Feeling your body, from head to toe, and becoming aware of all the sensations in your body. So that now you are observing not only the flow of breathing, but the sense of your body as a whole.

Being here with whatever feelings and sensations come up in any moment without judging them, without reacting to them, just being fully here, fully aware. Totally present with whatever your feelings are and with your breath and a sense of your body as a whole. And again whenever you notice that your mind wandering off, just bringing it back to your breathing and your body as you sit here not going anywhere, not doing anything just simply being, simply sitting. Moment to moment, being fully present, fully with yourself.

Reestablishing your awareness on the body as a whole and on the breath as it moves in and out of your body. Coming back to a sense of fullness of each inbreath, and the fullness of each outbreath. If you find yourself at any point drawn into a stream of thinking and you notice that
Mindfulness in a Small-Group Intervention Setting

you are no longer observing the breath, just using your breathing and the sense of your body to anchor you and stabilize you in the present.

Just being with your breathing from moment to moment, just sitting in stillness, looking for nothing and being present to all. Just as it is, just as it unfolds. Just being right here, right now. Complete. Human. Whole.

As the practice comes to an end, you might give yourself credit for having spent this time nourishing yourself in a deep way by dwelling in this state of non-doing, in this state of being. For having intentionally made time for yourself to simply be who you are. And as you move back into the world, allow the benefits of this practice to expand into every aspect of your life.

Reference: Mindfulness Meditation, CD Series 1, Jon Kabat-Zinn

Mindful Breathing Script 1

Begin by finding a comfortable position, but one in which you will not fall asleep. Sitting on the floor with your legs crossed is a good position to try.

Close your eyes or focus on one spot in the room.

Roll your shoulders slowly forward and then slowly back.

Lean your head from side to side, lowering your left ear toward your left shoulder, and then your right ear toward your right shoulder.

Relax your muscles.

Your body will continue to relax as you meditate.

Observe your breathing. Notice how your breath flows in and out. Make no effort to change your breathing in any way, simply notice how your body breathes. Your body knows how much air it needs.

Sit quietly, seeing in your mind’s eye your breath flowing gently in and out of your body.

When your attention wanders, as it will, just focus back again on your breathing.

Notice any stray thoughts, but don’t dwell on them. Simply let the thoughts pass.

See how your breath continues to flow...deeply...calmly.
Mindfulness in a Small-Group Intervention Setting

Notice the stages of a complete breath... from the in breath... to the pause that follows... the exhale... and the pause before taking another breath...

See the slight breaks between each breath.

Feel the air entering through your nose... picture the breath flowing through the cavities in your sinuses and then down to your lungs...

As thoughts intrude, allow them to pass, and return your attention to your breathing.

(Pause)

See the air inside your body after you inhale, filling your body gently.

Notice how the space inside your lungs becomes smaller after you exhale and the air leaves your body.

Feel your chest and stomach gently rise and fall with each breath.

Now as you inhale, count silently... one

As you exhale, count... one

Wait for the next breath, and count again... one

Exhale... one

Inhale... one

Exhale... one

Continue to count each inhalation and exhalation as "one."

(Pause)

Notice now how your body feels.
See how calm and gentle your breathing is, and how relaxed your body feels.

Now it is time to gently reawaken your body and mind.

Keeping your eyes closed, notice the sounds around you. Feel the floor beneath you. Feel your clothes against your body.

Wiggle your fingers and toes.

Shrug your shoulders.
Open your eyes, and remain sitting for a few moments longer.

Straighten out your legs, and stretch your arms and legs gently.

Sit for a few moments more, enjoying how relaxed you feel, and experiencing your body reawaken and your mind returning to its usual level of alertness.

Slowly return to a standing position, and continue with the rest of your day, feeling re-energized.

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**Mindful Breathing Script 2**

The intention of this brief exercise is to focus your attention on your breath as you allow thoughts and sensations to come and go in the background.

Find a comfortable place to sit. Put your feet flat on the ground and try to straighten your posture.

Gently close your eyes. Let your shoulders drop down and away from your ears.

Pay attention to your breathing and just allow yourself to continue to breathe naturally.

Now, rest your hands gently on your belly with the fingertips of each hand lightly touching in the middle.

Breathe in smoothly through your nose. And exhale slowly through your mouth. Continue to take slow, smooth breaths.

When you breathe in, notice your belly push your hands gently apart, as you fill your lower lungs with air. When you breathe out, notice your belly sink back towards your spine as you release your breath.

You can imagine that your belly is a balloon. Fill it with air and then watch it deflate.

Now continue to focus on the gentle inhalation and exhalation of your breath. In...and out...

If any other thoughts or images come into your mind during this exercise, just notice them, and gently bring your attention back to your breath.

You may also become aware of physical sensations or feelings in your body. Simply notice them, and then again, bring your mind back to your breath. You don’t need to analyze or give these thoughts or feelings any meaning in this moment. Simply acknowledge them without judgment and bring your mind back to your breath.
Mindfulness in a Small-Group Intervention Setting

It’s normal for your mind to wander. Simply notice that your mind has wandered and gently bring your attention back to your breath.

Continue to focus on your breathing and stay in this relaxed state for as long as you like. When you are ready, slowly open your eyes and bring your attention back to your surroundings.

Reference: Anxiety BC Youth/Resources.Results.Relief

Basic Mindfulness Meditation Practice Script

Sitting on a straight-backed chair or couch or on a cushion on the floor, allow your body to become still. The back is straight without being stiff; the posture is relaxed, awake, and dignified. The hands can rest gently on the knees or in the lap. The eyes are open, simply resting the gaze on whatever is in front of you, without thinking too much about what you’re viewing. Settling into this moment, begin watching the breath. Become aware of the fact that you’re breathing.

Become aware of the movement of the breath as it flows into and out of the body. Feel the breath as it comes into the body and as it leaves the body. Simply remain aware of the breath flowing in and flowing out, not manipulating the breathing in any way. Simply being aware of it and noticing how it feels. When your mind becomes distracted—and it will become distracted—simply return to the breath. No commentary. No judgment. Allow yourself to be with this flow of breath, coming in and going out.

Notice the feeling of the breath as the lungs fill with air on the in-breath and deflate as you breathe out, the chest expanding and collapsing. Perhaps feeling the breath in the abdomen, rising as you breathe in and flattening and sinking as you breathe out. Allow your attention to gently ride on the sensation of each breath, not thinking about breathing, without the need to comment. Simply watching your breathing. Allow the breath to naturally breathe itself, not needing to change it in any way, giving full attention to each breath.

Observe the full cycle of each breath, locating the very beginning of the breath, as it enters the nose or mouth, and following it as it fills the lungs and expands the chest and the abdomen, then comes to the gap where there is neither in-breath nor out-breath, before it turns around and makes its journey out of the body. Simply remain present for the cycle of each breath, being there, letting your attention gently float on the awareness of your breath.

After a short time, you may notice that the mind wanders off to thoughts of the past, fantasies, memories, or regrets. Or it may move to anticipation of the future, planning, wishing, and judging. You may find yourself thinking about what you’ll do after this exercise, what you have to do at work, things that you have to do. As soon as you become aware that the attention has moved off the breath, guide it back to the next breath with a gentle and firm awareness. There’s
Mindfulness in a Small-Group Intervention Setting

no need to give yourself a hard time, saying, “How did I become so distracted?” Simply come back to this breath. Watching the breath and the arising thoughts without judgment, simply observing. Once again, bringing the attention to this breath, in this moment.

Breathing in with the in-breath, breathing out with the out-breath. Feeling the movement in your body. The breath anchoring the attention in this moment. When the mind wanders, bring your attention back to the breath, knowing that you can always use the awareness of your breath to refocus your attention, to return to the present.

Whenever you notice that you have drifted from the present—when you become distracted, preoccupied, or restless—the attention on the breath can be a powerful anchor to this moment and to this state of awake stillness. And now, for the time remaining, let go of all particular objects of attention, allowing yourself to simply be here, simply present. Breath moving, sensations in the body, sounds, thoughts, all of it coming and going…allowing all of it…and dropping into being, into stillness, present with it all, as it unfolds, complete, as you are, whole.

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Guided Body Scan Meditation Script

This guided body scan meditation is intended to help you enter a very deep state of relaxation. It is best if you can manage to stay awake throughout the entire exercise. It’s important to remember to not try to relax. This will just create tension. What you’ll be doing instead is becoming aware of each passing moment and just accepting what is happening within you, seeing it as it is. Let go of the tendency of wanting things to be different from how they are now and allow things to be exactly as you find them. Just watch the activity of your mind, letting go of judgmental and critical thoughts when they arise, and just doing what the exercise guides you to do as best you can.

Closing your eyes, and letting your arms lie alongside your body, your feet falling away from each other and slowly bringing your attention to the fact that you are breathing. Not trying to control your breath in any way but simply experiencing it as the air moves in and out of your body and noticing your abdomen and feeling the sensations there as your breath comes into your body and your abdomen gently expands. Then noticing your belly deflate as the breath comes out of your body. And following the rhythmic movement of each breath…the rising of your belly on the inbreath and on each outbreath just letting go, letting your body become heavy as it sinks a little bit deeper into relaxation. Just bringing full attention to each breath in each moment.

Now bringing your attention to your feet, becoming aware of whatever sensations are there. If you are registering a blank as you tune in, then just experiencing nothing. And as you breathe in, imagine your breath moving all the way down to your feet and then when you reach your feet, begin your outbreath and let it move all the way up your body and out your nose. So that you’re breathing in from your nose and breathing out from your feet. And when you are ready, letting
Mindfulness in a Small-Group Intervention Setting

your feet dissolve in your mind’s eye. Become aware of the shins and calf muscles and the sensations in the lower legs, not just on the surface but right down into the bones, experiencing and accepting what you feel here and breathing into it, then breathing out from it. Then letting go of your lower legs as you relax into the bed or mat. And moving now into the thighs and if there’s any tension just noticing that. Breathing into and out from the thighs. Then letting your thighs dissolve and relax.

And now shifting your attention to your belly again and experiencing the rising and falling of your belly as you breathe. Feeling the movements of your diaphragm, that umbrella-like muscle that separates your belly from your chest. And experiencing the chest as it expands on the in-breath and deflates on the out-breath. And if you can, tune into the rhythmic beating of your heart within your chest. Feeling it if you can. As well as the lungs expanding on either side of your heart. Just experiencing your chest, your belly, as you lie here…the muscles on the chest wall, the breasts, the entirety of the front of your body. And now just letting this region dissolve into relaxation as well.

Moving your attention now to your fingertips and to both hands together, just becoming aware of the sensations now in the tips of your fingers and thumbs where you may feel some pulsations from the blood flow, a dampness or a warmth or whatever you feel. Just feeling your fingers. And expand your awareness to include the palms of your hands and the backs of your hands and your wrists. And here again perhaps picking up the pulsations of the arteries in your wrists as the blood flows to and from your hands. And becoming aware as well of the forearms. And the elbows. Any and all sensations regardless of what they are. Allowing the field of your awareness to include now the upper arms. Right up to your shoulders. Just experiencing your shoulders and if there are any tensions, breathing into your shoulders and arms. And letting that tension dissolve as you breathe out. Letting go of the tension and letting go of your arms. All the way from your fingertips, right through to your shoulders. As you sink even deeper into a state of relaxed awareness. Just being present in each moment. Letting go of whatever thoughts come up or whatever impulses to move and just experiencing yourself in this moment.

And now focus your attention on your neck and throat and feel this part of your body, experiencing what it feels like perhaps when you swallow and when you breathe. And then letting it go. Letting it relax and dissolve in your mind’s eye. Becoming aware of your face now. Focusing on the jaw and the chin, just experiencing them as they are.

Becoming aware of your lips and your mouth. And becoming aware of your cheeks now…and your nose, feeling the breath as it moves in and out at the nostrils. And be aware of your eyes. And the entire region around your eyes and eyelids. And if there’s any tension, letting it leave as the breath leaves. And now the forehead, letting it soften to let go of stored emotions. And the temples. And if you sense any emotion associated with the tension or feelings in your face, just being aware of that. Breathing in and letting the face dissolve into relaxation and stillness. And now become aware of your ears, and back and top of your head. Now letting your whole face and head relax. For now, just letting it be as it is. Letting it be still and neutral. Relaxed and at peace.

Now letting your breath move through your entire body in whatever way feels natural for you. Through the entire length of your body. All of your muscles in a deep state of relaxation. And
your mind simply aware of this energy, of this flow of breath. Experiencing your entire body breathing. Sinking deeper and deeper into a state of stillness and deep relaxation. Allow yourself to feel whole. In touch with your essential self in a realm of silence, of stillness, of peace. And seeing that this stillness is in itself healing. And allowing the world to be as it is beyond your personal fears and concerns. Beyond the tendencies of your mind to want everything to be a certain way. Seeing yourself as complete right now as you are. As totally awake right now.

As the exercise ends, bring your awareness back to your body again, feeling the whole of it. You may want to wiggle your toes and fingers. Allow this calmness and this centeredness to remain with you when you move. Congratulate yourself on having taken the time to nourish yourself in this way. And remember that this state of relaxation and clarity is accessible to you by simply paying attention to your breath in any moment, no matter what’s happening in your day. Let your breath be a source of constant strength and energy for you.

Reference: Mindfulness Meditation, CD Series 1, Jon Kabat-Zinn

Short Body Scan Script

Begin by bringing your attention into your body.

You can close your eyes if that’s comfortable for you.

You can notice your body seated wherever you’re seated, feeling the weight of your body on the chair, on the floor.

Take a few deep breaths.

And as you take a deep breath, bring in more oxygen enlivening the body. And as you exhale, have a sense of relaxing more deeply.

You can notice your feet on the floor, notice the sensations of your feet touching the floor. The weight and pressure, vibration, heat.

You can notice your legs against the chair, pressure, pulsing, heaviness, lightness. Notice your back against the chair.

Bring your attention into your stomach area. If your stomach is tense or tight, let it soften. Take a breath.

Notice your hands. Are your hands tense or tight. See if you can allow them to soften.

Notice your arms. Feel any sensation in your arms. Let your shoulders be soft.
Mindfulness in a Small-Group Intervention Setting

Notice your neck and throat. Let them be soft. Relax.

Soften your jaw. Let your face and facial muscles be soft.

Then notice your whole body present. Take one more breath.

Be aware of your whole body as best you can. Take a breath. And then when you’re ready, you can open your eyes.

**Guided Sitting Meditation Script**

This guided sitting meditation will help you learn to simply be and to look within yourself with mindfulness and equanimity. Allow yourself to switch from the usual mode of doing to a mode of non-doing. Of simply being. As you allow your body to become still, bring your attention to the fact that you are breathing. And become aware of the movement of your breath as it comes into your body and as it leaves your body. Not manipulating the breath in any way or trying to change it. Simply being aware of it and of the feelings associated with breathing. And observing the breath deep down in your belly. Feeling the abdomen as it expands gently on the inbreath, and as it falls back towards your spine on the outbreath. Being totally here in each moment with each breath. Not trying to do anything, not trying to get any place, simply being with your breath.

You will find that from time to time your mind will wander off into thoughts, fantasies, anticipations of the future or the past, worrying, memories, whatever. When you notice that your attention is no longer here and no longer with your breathing, and without judging yourself, bring your attention back to your breathing and ride the waves of your breathing, fully conscious of the duration of each breath from moment to moment. Every time you find your mind wandering off the breath, gently bringing it back to the present, back to the moment-to-moment observing of the flow of your breathing. Using your breath to help you tune into a state of relaxed awareness and stillness.

Now as you observe your breathing, you may find from time to time that you are becoming aware of sensations in your body. As you maintain awareness of your breathing, see if it is possible to expand the field of your awareness so that it includes a sense of your body as a whole as you sit here. Feeling your body, from head to toe, and becoming aware of all the sensations in your body.

Being here with whatever feelings and sensations come up in any moment without judging them, without reacting to them, just being fully here, fully aware of whatever you’re experiencing. And again whenever you notice that your mind wandered off, just bringing it back to your breathing and your body as you sit here not going anywhere, not doing anything just simply being, simply sitting. Moment to moment, being fully present, fully with yourself.
Mindfulness in a Small-Group Intervention Setting

Now as you sit here once again allowing the field of your awareness to expand. This time, expanding your awareness to include thoughts as they move through your mind. So letting your breathing and sense of your body be in the background and allowing the thinking process itself to be the focus of your awareness. And rather than following individual thoughts and getting involved in the content and going from one thought to the next, simply seeing each thought as it comes up in your mind as a thought and letting the thoughts just come and go as you sit and dwell in stillness, witnessing them and observing them. Whatever they are…just observing them as events in the field of your consciousness…as they come into your awareness and they linger and as they dissolve.

If you find yourself at any point drawn into this stream of thinking and you notice that you are no longer observing them, just coming back to observing them as events and using your breathing and the sense of your body to anchor you and stabilize you in the present.

The thoughts can take any form, they can have any content and they can be either neutral or very highly charged. If thoughts come up that have fear in them, then just be aware of fear being here and letting these thoughts come and go. The same for worries, preoccupations, and so on. Regardless of the feeling that a thought might create for you, just observing it as simply a thought and letting it be here without pursuing it or without rejecting it. Noticing that from moment to moment, new thoughts will come and go.

As the meditation ends, you might give yourself credit for having spent this time nourishing yourself in a deep way by dwelling in this state of non-doing, in this state of being. For having intentionally made time for yourself to simply be who you are. And as you move back into the world, allow the benefits of this practice to expand into every aspect of your life.

Reference: Mindfulness Meditation, CD Series 1, Jon Kabat-Zinn

Mindful Eating Script

If you’ve heard about mindful eating but aren’t sure where or how to start, here are instructions for a brief mindfulness eating exercise.

The following exercise is simple and will only take a few minutes.

Find a small piece of food, such as one raisin or nut, or a small cookie. You can use any food that you like. Eating with mindfulness is not about deprivation or rules.

Begin by exploring this little piece of food, using as many of your senses as possible.

First, look at the food. Notice its texture. Notice its color.
Mindfulness in a Small-Group Intervention Setting

Now, close your eyes, and explore the food with your sense of touch. What does this food feel like? Is it hard or soft? Grainy or sticky? Moist or dry?

Notice that you’re not being asked to think, but just to notice different aspects of your experience, using one sense at a time. This is what it means to eat mindfully.

Before you eat, explore this food with your sense of smell. What do you notice?

Now, begin eating. No matter how small the bite of food you have, take at least two bites to finish it.

Take your first bite. Please chew very slowly, noticing the actual sensory experience of chewing and tasting. Remember, you don’t need to think about your food to experience it. You might want to close your eyes for a moment to focus on the sensations of chewing and tasting, before continuing.

Notice the texture of the food; the way it feels in your mouth.

Notice if the intensity of its flavor changes, moment to moment.

Take about 20 more seconds to very slowly finish this first bite of food, being aware of the simple sensations of chewing and tasting.

It isn’t always necessary to eat slowly in order to eat with mindfulness. But it’s helpful at first to slow down, in order to be as mindful as you can.

Now, please take your second and last bite.

As before, chew very slowly, while paying close attention to the actual sensory experience of eating: the sensations and movements of chewing, the flavor of the food as it changes, and the sensations of swallowing.

Just pay attention, moment by moment.

Using a mindfulness eating exercise on a regular basis is only one part of a mindfulness approach to your diet.

The liberating power of mindfulness takes deeper effect when you begin to pay mindful attention to your thoughts, emotions, and bodily sensations, all of which lead us to eat. Mindfulness (awareness) is the foundation that many people have been missing for overcoming food cravings, addictive eating, binge eating, emotional eating, and stress eating.

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Eating One Raisin: A First Taste of Mindfulness

Holding
First, take a raisin and hold it in the palm of your hand or between your finger and thumb. Focusing on it, imagine that you’ve just dropped in from Mars and have never seen an object like this before in your life.

Seeing
Take time to really see it; gaze at the raisin with care and full attention. Let your eyes explore every part of it, examining the highlights where the light shines, the darker hollows, the folds and ridges, and any asymmetries or unique features.

Touching
Turn the raisin over between your fingers, exploring its texture, maybe with your eyes closed if that enhances your sense of touch.

Smelling
Holding the raisin beneath your nose, with each inhalation drink in any smell, aroma, or fragrance that may arise, noticing as you do this anything interesting that may be happening in your mouth or stomach.

Placing
Now slowly bring the raisin up to your lips, noticing how your hand and arm know exactly how and where to position it. Gently place the object in the mouth, without chewing, noticing how it gets into the mouth in the first place. Spend a few moments exploring the sensations of having it in your mouth, exploring it with your tongue.

Tasting
When you are ready, prepare to chew the raisin, noticing how and where it needs to be for chewing. Then, very consciously, take one or two bites into it and notice what happens in the aftermath, experiencing any waves of taste that emanate from it as you continue chewing. Without swallowing yet, notice the bare sensations of taste and texture in the mouth and how these may change over time, moment by moment, as well as any changes in the object itself.

Swallowing
When you feel ready to swallow the raisin, see if you can first detect the intention to swallow as it comes up, so that even this is experienced consciously before you actually swallow the raisin.

Following
Finally, see if you can feel what is left of the raisin moving down into your stomach, and sense how the body as a whole is feeling after completing this exercise in mindful eating.
Mindfulness in a Small-Group Intervention Setting