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The Impact of Meditation on Student Writing in an Intensive English Context

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The Impact of Meditation on Student Writing in an Intensive English Context

by

Nicole. E Wurdak

A Thesis

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Arts

April, 2015

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Abstract

Writing in a foreign language is one of the most difficult and anxiety-inducing activities that language learners encounter (Barwick, 1995, Rife & Stacks, 1992). Meditation has been found to lessen student anxiety and increase mindfulness. Increased mindfulness and decreased anxiety aid students' academic performance (Goldin, Ramel, & Gross, 2009, Heeren & Philippot, 2011). This study investigated the effects of a single 5-minute guided meditation session on student in intermediate to advanced levels of an intensive English program. Student participants crafted two essays, one with no outside influence and one following the meditation. Essays were then compared to ascertain whether the single meditative session had any bearing on overall length, presence of cohesive markers, and diversity of vocabulary. Participants were also given a survey assessing their writing anxiety and general sense of mindfulness both before their first essay, and prior to any meditation, and following their second essay when they had participated in the meditation. Finally, selected students were interviewed individually to acquire a more in-depth response to the experience.

There were no significant differences in passage length, presence of cohesive markers, and vocabulary in the compositions written following a session of meditation. While the survey results were insignificant overall, five questions from the writing anxiety questions did show significance. Interestingly, while some of the significant questions seemed to indicate a positive response to the meditation, others did the opposite. The participants in the post-meditation qualitative interviews all indicated that they would enjoy the opportunity to regularly participate in classroom meditations were they offered.

Overall, this study shows that one session of meditation does not strongly affect students' writing or associated sense of anxiety. However, a longer study investigating the relationship between meditation and writing in the ESL context may provide more significant results.

Dedication

This project, as with most I have taken up, would not have been possible without the support of those around me.

I would like to thank my genius mother for instilling in me the love of higher learning and scientific investigation. Additionally, I'd like to thank her for editing and re-editing this culminating project and, in truth, for likely being the only person outside of my committee to read it in its entirety.

I'd like to thank my dashing husband for supporting me both emotionally and financially through portions of graduate school and for providing many much needed excuses to take a break from thesis work.

Finally, I'd like to thank my darling dog, Sydney, and cat, Maya, who spent countless hours snoring beside me while I typed this thesis.

Additional thanks could and should be given to many others including my thesis committee members, fellow graduate students, members of the statistics department, and other friends and family. While a thorough dedication would require more pages than this actual thesis, I hope I have expressed my gratitude through word and deed throughout the process.

“Quiet the mind and the soul will speak”
-Ma Jaya Sat Bhagavati

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Chapter I: Introduction

Overview

In the classroom, after issuing a writing prompt, I see students stop and stare. Their recently vibrant faces dull, their eyes glaze over, and, inevitably, one of two things happens. One group of students will proceed to spend the next 5 minutes staring at the prompt, without their pen ever reaching the paper. Then, after enough time has elapsed, they will slowly and cautiously write—eyebrows furrowed through each word. Students in the other group will start to twitch. They'll begin writing quickly and furiously, and the cacophony of their pens tapping their desks and their feet bouncing on the floor will fill the room with the sounds of effort.

The ability to write, and write well, is a paramount concern for most occupations and, as a result, it is a highly tested and greatly-valued language skill. However, it is an incredibly difficult task because writing requires authors to coordinate so many parts of language. A writer must transform his/her thoughts into words, find the correct vocabulary to match each thought, form syntactically correct sentences, and finally, assemble all of this information into a systematically-organized cohesive unit. At times when I myself have felt blocked while writing, I would stop and take several moments to breathe and detach my mind from the task. Though I did not recognize it then, these moments, small as simple though they were, served as my first experiences with meditation and writing.

I was first introduced to meditation in 2004 in several Buddhist temples while studying abroad in Thailand. The ease and calm with which the Buddhist monks approached their daily tasks and tribulations put me in awe. I was fascinated with their slowed and

intentional interaction with the external world. In later years, while working in a high-stress occupation, I attended an 8-week Mindfulness Based Stress Reduction (MBSR) course and witnessed individuals finding peace through controlled breathing in times of turmoil due to conditions such as incessant pain, PTSD, cancer treatment. Advancing further, I acquired a yoga instructor certification in my pursuit to learn more about the internal system's ability to regulate and affect external processes.

Prior to this project, I did not meditate. I loved researching the topic and was swayed by the fascinating results that I had seen in other studies, yet never found relief through meditation. In fact, many attempts, throughout my years of practice, left me more anxious than when I began. Several teachers I'd had in the past consoled me with their similar experiences, ensuring me that it just took more work to get to an ability level where one could calm down and enjoy meditation. I felt like there was a great deal of opportunity, so close at hand, that I could never reach, but so desperately wanted to. My own desire for meditative success combined with my background of research on the topic and experience with a multitude of anxious EL learners led me to pursue the investigation of the effect of meditation on student anxiety.

Statement of Problem

From this premise, I began to research the practice of meditation within a classroom setting and discovered that there has been a great deal of research conducted on the impact of meditation and of the resulting mindfulness on academic performance. However, much of this research focuses on the effect of meditation on either anxiety around classroom performance or on specific test scores (Hall, 1999; Keogh, Bond, & Flaxman, 2006; Mrazek, Franklin,

Baird, Schooler, & Phillips, 2013). Consideration of these two findings caused me to wonder, what would be the impact of a meditative treatment on writing-related anxiety and the resulting compositions?

A survey of past meditation-related publications also showed that the research is largely conducted through an extended period of meditative instruction and practice. While the results of creating and establishing a meditative habit do correlate positively with academic performance, from my experience, it is not generally feasible to apply this long-term treatment within many classrooms. Therefore, I wanted to conduct this study to investigate the potential results of meditation following only one treatment, fully cognizant of the potential for nonexistent, inconsistent, or insignificant results. Moreover, as it is not likely that many ESL instructors have or could receive training in meditation guidance, this study will utilize the five-minute guided breathing meditation created by the UCLA Mindful Awareness Research Center and available without fee online (UCLA, 2013) instead of live instruction.

Expected Outcomes and Implications

There are three genres of study which have bearing upon the expectations for the one I proposed. First, several previous studies have determined that higher levels of writing anxiety correlate with poorer performance when creating a composition (Cheng, Horwitz, & Schallert, 1999; Martinez, Kock, & Cass, 2011; Riffe & Stacks, 1992). Secondly, investigations of the effect of meditation and mindfulness positively coincide with decreased levels of anxiety (Kabat-Zinn, 2009; Soons, Brouwers, & Tomic, 2010; Davidson et al., 2003). Finally, other studies indicate a positive correlation between meditation and higher levels of mindfulness

and improved academic performance (Hall, 1999; Keogh et al., 2006; Mrazek et al., 2013). By intertwining the findings of these three genres of study one could surmise that engaging in a meditative practice prior to a writing performance might positively affect the quality of the work produced.

Chapter II: Review of the Literature

Overview

This study investigated the effects of guided meditation on student performance within an Intensive English Program prior to an essay assignment. Within this task there were several areas to consider. First, it was important to consider the potential impact of anxiety on learners engaging in writing. Anxiety can be specific to writing in general or to writing specifically within the second language context. Within education, various strategies have emerged to combat learner anxiety, including the conceptualization of Suggestopedia, theorized by Georgi Lozanov. Second, it was important to consider the processes, goals, and implications of a meditative practice. In line with this practice, the resulting modifications in the learner's state of mindfulness and their impact on academic performance were examined. Finally, a review of previous research on the impact of mindfulness and meditation on academic performance was presented, showcasing both the information already gleaned and the areas of lack.

Meditation within the educational context is a burgeoning area of study. Therefore, the amount of new research has grown exponentially even throughout the process of investigating this project. While this review provides a glimpse into some of the benefits of meditation, a wealth of additional information is available in scientific and popular areas.

Learner Anxiety

In foreign language learning, anxiety is inevitable for many learners. Anxiety may present itself as feelings of worry, tension, or apprehension. Anxiety related to learning can be described as either "trait" or "state" anxiety. Trait anxiety is that which is consistent and

stable for a person whereas state anxiety is more temporary and only presents itself when the individual is presented with specific instigation (Horwitz, 2001). Language learning anxiety pertains to those individuals who are deeply affected by trait anxiety when trying to learn a foreign language. In a variety of studies researchers have found that high levels of anxiety negatively predict language performance (Matsuda & Gobel, 2004; Woodrow, 2011). The anxiety may express itself through task avoidance, an inability to concentrate, or various physical manifestations (Johnson & Johnson, 2010).

Some learners exhibit an alternate trait anxiety specific to writing. Persons deeply affected by writing anxiety may deliberately avoid a teacher who assigns a great deal of writing, a course that is writing-intensive, or, at the extreme, may specifically opt into a career for the reason that it does not require any lengthy writing assignments (Cheng et al., 1999). The negative feelings they harbor related to writing may be of a general nature and include writing in a variety of contexts, or they may be more specific and relate to smaller, individualized tasks within the broader scope of writing (Riffe & Stacks, 1992).

Psychologists have looked at the types and explanations for different expressions of writing anxiety. According to Barwick (1995), there are three categories and related descriptions for individuals with writing anxiety. They are: nonstarters, noncompleters, and nonexhibitors. Nonstarters want to avoid writing and the perceived potential negative results, such as criticism or complete rejection. Noncompleters may have the ability to initiate the experience, however, they then stifle their initiative along with their negative/aggressive emotional response to writing and, like nonstarters, avoid the potential unfavorable reactions possible upon completion. Nonexhibitors are obsessed with their writing in a critical, overly

analytic manner, prohibiting them from feelings of satisfaction or success upon completion (Barwick, 1995).

This anxiety has been shown to negatively affect grades on classroom work as well as on standardized test scores reinforcing the negative emotional relationship between the anxious authors and their writing practice. Conversely, grades may influence the overall impression of academic performance and, in turn, affect the anxiety surrounding a specific academic task, such as essay writing as evidenced by the fact that students with higher GPAs report lower levels of anxiety in regards to writing, while students with a lower initial grade level report higher anxiety (Martinez et al., 2011).

Suggestopedia

The practices and underlying theories recognizing the role of meditation and related classroom strategies were most popularly introduced to Western Educators through the work of Bulgarian psychiatrist-educator Georgi Lozanov and his prescribed method of Suggestopedia. Suggestopedia considers both the obvious factors involved in instruction (lesson plans, textbooks, topics covered) along with the “nonrational and/or nonconscious influences that human beings are constantly responding to” (Richards & Rogers, 1986, p. 142). Consideration of these non-academic influences warrant, in the eyes of Lozanov, a modified physical space of instruction potentially including comfortable furniture, seating arrangements allowing for increased ease of socialization, music, and candles. In line with his alternative thinking, “Lozanov theorized that the subconscious mind can best be reached when the student is in a ‘suggestive’ state of mind and that comes most readily through meditation and relaxation” (Moore, 1992, p. 734). These environmental and mental changes, Lozanov

believed, would increase attentiveness by removing distractors and this increased attention, he believed, could increase the speed and capacity of student learning (Richards & Rogers, 1986).

Meditation and Mindfulness

Mindfulness can be defined in a variety of ways, both encapsulating that which it includes and that which is deliberately excluded. Simply, it can be described as “the ability to pay attention to what you’re experiencing from moment to moment—without drifting into thoughts of the past or concerns about the future, or getting caught up in opinions about what is going on” (The benefits of mindfulness, 2004, p. 1). It is the act of being where one is and focusing only on the direct physical experiences one is feeling—those of smell, taste, touch, sight, and taste—without regard to any external past or future experiences or related thoughts. When external thoughts do find their way into the psyche, one behaving mindfully is to recognize their existence and then, non-judgmentally, cast them aside (Albrecht, Albrecht, & Choen, 2012).

One way in which this focus directly impacts student writing is by developing within practitioners the ability to not only ignore negative distractions, but also improve their focus on details relevant to the task at hand. The impact of mindful meditation on these abilities was investigated by Heeren and Philippot (2011). They state that the negative thoughts, typically defined as negative rumination, can play out as obsessive thoughts students have about their inability to complete a particular task, their knowledge deficiencies, or their predetermined sense of inevitable failure. Conversely, the ability to quell these negative ruminations can, in turn, focus attention on one particular thought/task, referred to as adaptive rumination. In a

study of 49 individuals (29 of whom served as test subjects, while 20 were controls), their findings validated the initial hypothesis that meditation would decrease negative rumination and increase adaptive rumination (Heeren & Philippot, 2011).

Mindfulness is not necessarily experienced through meditation, but meditation is the most common way of accessing it. Meditation can be practiced in a variety of ways. Some meditative practices have a deep, religious background and rely on religious chanting or visualizations focused around a particular religious message or deity (Shapiro, Carlson, Astin, & Freedman, 2006). However, at its root, meditation is a non-religious practice (McLean, 2001). The most frequently utilized manner of meditation is that of breathing, whereby participants simply sit or lie down and devote the entirety of their attention to the sensations related to their own inhalation and exhalation (Kabat-Zinn, 2009).

Jon Kabat-Zinn popularly pioneered the study of meditation and its relation to anxiety and mindfulness. Kabat-Zinn is currently a professor emeritus at the University of Massachusetts Medical School. While Kabat-Zinn originally received his doctorate in molecular biology from MIT, his personal interest in stress studies and the ideologies of Eastern religions in their treatment of stress, led to his pioneering work—the creation of Mindfulness-Based Stress Reduction (MBSR). MBSR is an 8-week program marketed to those with chronic stress, physical pain, illness, or a variety of other factors. The paramount task within this program is for participants to develop their own sense of mindfulness, enacted through meditation. While he reports a plethora of anecdotal successes for participants of his course, there are many clinical studies that lend support to these stories (Grossman, Niemann,

Schmidt, & Walach, 2004; Kabat-Zinn, 2009). Many research studies have used the 8-week MBSR format as their meditative treatment.

Impact of Meditation on Classroom Anxiety

One of the primary aims of meditation is to reduce anxiety and increase feelings of calm (Kabat-Zinn, 2009). In the field of education, McLean (2001) analyzed the impact of meditation on specific categories of learning in a qualitative manner. She noted that meditation served to calm students physically (reducing incidences of out-of-turn speaking and increasing students' abilities to sit still) as well as improved their abilities to cast aside external distractions (student disruptions and the noise impact of an outside storm). McLean also noted an increase in the creativity in student writing (2001).

In a study conducted by the University of Wisconsin, participants engaging in an 8-week meditation practice were evaluated for generalized feelings of well-being and given brain scans prior to their training, immediately following, and again 4 months later. Not only did researchers find that participants self-reported more positive emotions following the treatment, but they also maintained that positive shift four months following the treatment. Moreover, brain wave recordings “showed a pattern of activity—greater in the left prefrontal brain cortex than in the right—that’s associated with happiness and optimism” whereas before, the two hemispheres were more balanced in activity levels (President and Fellows of Harvard College, 2004, p. 3). Based upon their findings, the authors remarked that even small, limited exposures to meditation could have dramatic and long-lasting effects on participant anxiety (Davidson et al., 2003).

Additional findings by Goldin et al. (2009) found that individuals participating in a meditative practice showed “(a) increased self-esteem and decreased anxiety, (b) increased positive and decreased negative self-endorsement, (c) increased activity in a brain network related to attention regulation, and (d) reduced activity in brain systems implicated in conceptual-linguistic self-view” (p. 242).

Impact of Meditation on Academic Performance

Several studies have been conducted linking meditative practices and mindfulness with improved academic performance based upon standardized test scores or alternative grading systems (Hall, 1999; Horwitz, 2001; Keogh et al., 1999; Mrazek et al., 2013).

Mrazek et al. (2013) conducted a random, controlled experiment whereby half of the participants, composed of undergraduate students, were subjected to 2 weeks of training in meditation, whereas the control group received training in nutrition. Training sessions for both groups occurred four times a week and spanned 45 minutes. Following the training period, both groups completed the Graduate Record Examination (GRE). Mrazek et al. found that those participating in the meditation treatment showed improved scores on the reading comprehension section as compared to the control group.

Another study looked at the effects of meditation on a younger student sample, that of children aged 15-16 participating in the General Certificate of Secondary Education (GCSE), a standardized test required for all students of that age within the country. The students were randomly assigned to either a test or control group. The test group participated in 8-10 weeks of meditation while the control group received no intervention. Students completed the GCSE both before and after the meditative intervention. Keogh et al. found that students in the test

group received superior grades amounting to, on average, one letter grade of improvement as compared to those in the control group (Keogh et al., 1999).

Finally, Hall (1999) conducted a semester-long study of the effects of meditation on college students. For this study, students were randomly assigned to a meditation practice, or none. At the beginning of the semester, and again at the end of the semester, the participants' GPAs were gathered and compared. While the average GPAs were similar at the start of the semester, by the end the research showed that "participants who meditated for a semester had significantly higher GPAs than those who did not meditate" (Hall, 1999, p. 412).

Research Questions

In planning this study, my aim was to gain insight into the potential impact one session of meditation could have on student writing in St. Cloud State University's Intensive English Center program. The study investigated the effect of meditation on students' self-assessment of mindfulness and perceived anxiety. The study also sought to determine the impact of guided meditation on student writing samples after they had been given time and guidance for meditation compared to occasions where time had not been allotted.

Two research questions were thus posed:

1. How does meditation influence student essay writing in terms of:
 - a. Essay Length
 - b. Diversity in vocabulary
 - c. Cohesiveness (judged with consideration of transitions and pronominal referencing)
2. How does meditation affect students' perception of their own mindfulness?

Chapter III: Methodology

To investigate the first research question, writing samples were collected from 32 students in four different classes utilizing a within-subject design over the span of two class sessions. On the first day, all students completed two surveys examining writing-related anxiety and mindfulness. Then, students were randomly given one of two similar essay topics and asked to write an essay to the best of their abilities. On the second day of data collection, which occurred within one week of the first, students first listened to a five minute guided breathing meditation, then were given the opposite topic to the one they received on the previous day of data collection. Once more, they were asked to write an essay to the best of their abilities. Following this second composition, students were once more given the two surveys. Following the meditation, students were asked to participate in a focused interview meant to better elucidate the impact of the meditation on their writing and feelings of mindfulness.

Participants

The student participants in the study were volunteers from various ethnic, cultural, and language backgrounds enrolled in an intensive English program (IEP) in a medium-sized public university in the upper Midwest. The two biggest student groups within this program are Chinese and Saudi Arabian, however, there are students representing 19 different countries within the program as well as nine different languages. The students differ in the amount of English instruction they have received in their home countries as well as the amount of instruction they have received in the United States inclusive of this program. This program offers six levels of instruction ranging from pre-level one, for students who come

into the program with no or very little English speaking/writing abilities, up until level 5, where completion allows for acceptance into a Master's program at the university. Student participants in this study were selected from one of the upper levels—3, 4, or 5—as the writing objectives in these levels warrant essay composition writing.

This program is designed to provide accelerated learning for international students wishing to attend university courses upon completion of their career in the IEP; therefore, courses are designed to provide specific academic instruction on a variety of subtopics within the English language. Students attended courses in reading and writing, structure (grammar), listening and speaking, vocabulary, literature, conversation, academic discussion, computer use, and cultural orientation.

Since this study utilized upper-level participants, many of the students had been involved in the IEP program prior to this semester; however, some students were new to the program, and potentially to the country as well. New students were assigned a level in this program on the basis of their performance on the Test of English as a Foreign Language (TOEFL) that gauges their abilities in listening, vocabulary, grammar, and reading. Additionally, they completed a timed writing assignment which was subsequently graded by novice and experienced teachers in the IEP using a rubric which assigned a numeric score based upon writing skills in the categories of content, organization, vocabulary, language use, and mechanics (Jacobs & And, 1981). Students who were returning to the program were assigned a level based upon their grades, test scores, and teachers' evaluations from the former semester.

A total of 38 students were involved in this research study. Of those, 27 students completed the surveys on both days. 32 students completed and submitted both essays. 24 students completed both essays and both surveys. Only 27 individuals completed surveys of their demographic background.

Table 1

Demographic Characteristics of Participants

Characteristics	Frequency	Percent
Gender		
Male	15	39.5
Female	12	31.6
Missing	11	28.9
Age		
18-22	12	31.6
23-35	13	34.2
Not Specified	2	5.3
Missing	11	28.9
Level		
3	19	50.0
4	14	36.8
5	5	13.2
Country		
Saudi Arabia	12	31.6
Burkina Faso	4	10.5
China	2	5.3
Brazil	1	2.6
Mali	1	2.6
Burundi	1	2.6
South Korea	1	2.6
Nepal	1	2.6
Senegal	1	2.6
Chile	1	2.6
Not Specified	2	5.3
Missing	11	28.9

Native Language		
Arabic	14	36.8
French	6	15.8
Chinese	2	5.3
Spanish	1	2.6
Portuguese	1	2.6
Kirundi	1	2.6
Korean	1	2.6
Nepali	1	2.6
Missing	11	28.9
Time Spent Learning English		
One year or less	10	26.3
1-6 years	12	44.4
More than 6 years	4	10.5
Not Specified	1	2.6
Missing	11	28.9
Semesters Studying in IEP		
1-3	20	52.6
4-6	4	10.5
Not Specified	3	7.9
Missing	11	28.9
Previous Experience with Meditation		
Yes	4	10.5
No	21	55.3
No Response	2	5.3
Missing	11	28.9

Per the data, there was a similar number of male (N=15) and female participants (N=12). Students were split between those of a traditional American college age of 18-22 (N=12) and those being of a non-traditional age (N=13). The small majority of the students participating were in level 3 of the IEP (N=19). These students hailed from two different sections. There were 14 students participating from level 4. These students were all from one section of the level. The other section was unable to participate in this research project. The

smallest representation came from the level 5 course (N=5). There was only one section of this level and all students present on data collection days participated. The greatest portion of students listed their country of origin as Saudi Arabia (N=12) as expected based upon the general student populace. The second most common country was Burkina Faso (N=4) followed by China (N=2). Including those three countries, there were a total of 10 countries represented within the responding base. The language background of the students reflects their native countries with the most listing Arabic (N=14), followed by French (N=6) and Chinese (N=2). Time spent learning English overall and within this particular IEP shows that there seemed to be a similar proportion of new and old learners. Most relevant to this particular research study was the last question which asked if participants had any prior experience with meditation. Of those responding, only 4 indicated that they had, with 21 stating that they had no experience.

Materials

This project was designed to be easy to administer without researcher intrusion and simple enough to not distract from the meditation. The materials necessary were two surveys, one on mindfulness and one on writing anxiety, and an audio guide for the meditation.

Mindfulness Survey

One of the written surveys, adapted from Baer's 5 Facets of Mindfulness Survey, gauged students' present levels of mindfulness based upon five qualities related to mindfulness: non-judgment, non-reaction, descriptive abilities, awareness, and observational impressions. An example of each genre of statement, which students rated using a Likert scale, is listed below:

- Non-judgment—I make judgments about whether my thoughts are good or bad.
- Non-reaction—I watch my feelings without getting lost in them.
- Descriptive Abilities—Even when I’m feeling terribly upset, I can find a way to put it into words.
- Awareness—I find myself doing things without paying attention.
- Observational Impressions—When I’m walking, I notice the feelings of my body moving.

There were three questions relative to each facet and, as Baer et al. noted, these experiences of mindfulness were “significantly related to meditation experience” (Baer et al., 2008, p. 329) Research conducted into the efficacy of this survey by Baer et al. in 2008 found that it was a valid tool to investigate impressions of mindfulness in survey participants. This modified version has been adapted from its original 39 question format to include only 15 of the original questions and some of the questions have been modified slightly to accommodate participants’ English vocabulary mastery. Questions have been removed to prevent reader exhaustion. The questions remaining include three questions per facet. A complete version of this survey is included within the Appendix.

Writing Anxiety Survey

The second written survey, based upon the Writing Anxiety Scale developed by Cheng (2004) looked at the participants’ specific anxieties related to writing tasks. The questions covered three basic subscales related to anxiety: somatic anxiety, cognitive anxiety, and avoidance behavior (Cheng, 2004). While there are other surveys that look at either the broad category of anxiety or the more restricted language learning anxiety or generalized writing

anxiety, this survey more accurately and adequately addressed the subfacets specific to second language writing anxiety. The questions covered four areas: the times when writing was accompanied by anxiety, specific physical reactions to writing tasks, the effect of writing anxiety on the progress of the composition, and explanations for negative reactions to writing activities. Experimental work done by Cheng has validated this measure of second language learners' writing anxiety, however, "validation is a cumulative, ongoing process" (DeVellis, 1991, p. 113). The original survey included 27 questions. The modified version was shortened to contain only 19 questions to decrease potential reader exhaustion. Also, some questions were slightly reworded to utilize vocabulary more appropriate to the language abilities of the students being surveyed. The 19 remaining questions include a minimum of six questions per anxiety subscale (somatic anxiety, cognitive anxiety, and avoidance behavior). As stated in the section detailing the Mindfulness Survey, the elimination of questions was done to prevent potential participant weariness. A complete version of this survey is included within the Appendix.

Guided Meditation Audio

The meditation was conducted with audio guidance. The specific audio chosen was presented by the University of California at the Los Angeles Mindful Awareness Research Center and is entitled "Breathing Meditation." This audio is available for live streaming online or for download. There is no fee associated with either option. This specific audio sampling was selected because of its clear speech, simple vocabulary, and five-minute duration. The audio provides a simple guide to listeners about proper body positioning and

focal points. Approximately 1 minute of the sampling is silent, allowing listeners the opportunity to be silent and still, paying heed to their breath.

Procedure

This study took place in four upper-level University-based Intensive English Center program reading and writing classes over the span of one semester. Given that this test could be administered by any instructor within the program since no prerequisite knowledge of meditation was required, the research was conducted in four classrooms with four different teachers moderating the sessions.

Participating instructors met individually with the researcher prior to data collection. The researcher provided each instructor with a specific and detailed overview of the process and a sheet reiterating the protocol to ensure accuracy (Appendix D). The testing period lasted for two consecutive class sessions occurring in a computer lab, with one computer provided for each student. Prior to participation in this research study, students completed the Mindfulness and Writing Anxiety Surveys, consisting of a total of 34 questions each, along with questions related to the participants' background. These surveys provided information about the students' general sense of mindfulness and writing anxiety, allowing for greater depth of comparison not only for the individual student's test and control sessions, but also to compare the individual student to other student research subjects.

After the students completed the survey, they were allowed to leave the classroom for a break. After the break, students returned to the classroom and were each randomly given a slip of paper containing one of two essay topics. Topics were similar, but not identical, and were decided upon through collaboration between the classroom teacher and researcher.

Essay topics for the participating classes are included in Appendix C. Students were instructed to write an essay on their topic to the best of their abilities and were given 40 minutes to complete this task. Following this, they were asked not to discuss their topic or the essay writing process with any other students. Students were not, at this point, informed of the planned process repetition to prevent participants from engaging in additional meditation in the interim period. Within 1 week, all participating classes completed a second day of data collection. On this day, following a break, students were all asked to listen to a guided breathing meditation audio. They were asked to be silent throughout the audio. The classroom instructor was present for this exercise, but did not provide any assistance other than starting and stopping the audio. As the audio ended, students were given the topic alternate to that which they received on the first day of data collection and were, once again, given 40 minutes to write an essay to the best of their ability. After 40 minutes, students submitted their essays and were, once again, given the surveys they completed prior to their first day of essay writing.

Following both days of testing, approximately 10 students were invited to participate in a post-practice interview. Four students responded to this request and met with the researcher. These four students included one representative from each class. The interview was conducted orally within 1 week of students' participation and consisted of a series of 11 questions which are listed in Appendix B. The questions first looked into their background and past experience with writing and with meditation. Next, the questions more specifically probed into their experience during the first essay writing, the pre-writing meditation, and the subsequent writing task. Finally, the interviewer defined mindfulness and sought input about

the students' general feelings of mindfulness and the specific impact of the meditation on their own sense of mindfulness.

Analysis

Subsequently, the writing samples were analyzed based upon the three specific factors mentioned within the research question: word count, variation in vocabulary, and presence of cohesive markers. These three factors served as indicators, utilized by human and computer assessors, of good writing (Shermis, Koch, Page, Keith, & Harrington, 2002).

Passage length. Essay length was determined using the word count feature of Microsoft Word. Student names and the essay topics and titles were not included within the word count.

Lexical variety. Lexical variety was calculated utilizing the Compleat Lex Tutor website. Essays were individually inputted into the VocabProfiler. The VocabProfiler dissected the essays differentiating between word tokens and types. Word tokens are simply words used, including replications of the same word. Word types looks at the token and simply eliminates the replicates, providing a number of different words used. While some essays included many different versions of misspelt words these words were counted as different as there is a great likelihood that correction or categorization of these error-words could result in inaccurate translations and thereby reduce the accuracy of the results.

Cohesive markers. Cohesive Markers were coded by two individuals with Master's Degrees in ESL. Prior to coding the essays, they were both instructed on protocol, given a handout reiterating requirements (Appendix E), and required to complete two sample essays to ensure that the parameters were understood and that they were able to achieve 80% inter-

rater reliability. The investigators were not allowed to discuss their results with each other while coding.

The investigators were required to mark each cohesive relationship on the essay and label the relationship according to the categories of cohesive markers identified by Halliday and Hasan (1976) and further clarified by Cotton and Wilson (2008). Within these parameters, there were five categories of cohesive markers which could be identified. They were defined as reference, substitution, ellipsis, conjunction, and lexical cohesion. The category marked reference, is largely seen through the use of personal and demonstrative pronouns. Substitution occurs when a linguistic element is replaced by an alternate word evoking the same meaning. This differs slightly from reference markers in that the word referenced is not replaced by a pronoun. Ellipsis is created by the omission of a word coined with a situation whereby its meaning is implied though not directly stated. Conjunctions are the next category of cohesive marker. Conjunctions serve to create cohesion through the linking and progressing of ideas. The final category of cohesive marker, as deciphered within this project, is lexical cohesion. Lexical cohesion may be displayed through use of repetition, synonymy, and collocation (Halliday & Hasan, 1976; Cotton & Wilson, 2008).

For the participant surveys, a 5-point Likert scale was used with items coded as follows: “Never” = 1, “Rarely” = 2, “Sometimes” = 3, “Usually” = 4, and “Always” = 5. Statistical information was then gathered.

For the post-meditation interview, the investigator audio-recorded the interview. After the interview, the researched transcribed a limited amount of the audio, based upon elements

of repetition, anomaly, and import toward the investigation of the research question sought in this project. Questions were then analyzed for qualitative investigation.

All statistical information was collected and analyzed.

Chapter IV: Results

This study sought to investigate the effect of meditation on student writing through focus on two central questions. The results of these questions are largely statistically insignificant, but do show some significance in specific areas.

Results

This study posed two research questions:

1. How does meditation influence student essay writing in terms of:
 - a. Essay Length
 - b. Diversity in vocabulary
 - c. Cohesive markers
2. How does meditation affect students' perception of their own mindfulness?

The first question was investigated through the dissection of student essays, some written following a short meditation, some written without any atypical interference. The second question was looked at through the use of Likert surveys and a qualitative post-participation interview given to select students.

In brief, this investigation found that essay writing is not affected to a significant level by meditation in terms of essay length, vocabulary, and cohesive markers. Students' perceptions of mindfulness were affected in some areas, as gleaned through specific survey questions and post-participation interviews, but no significant difference was found overall on length, vocabulary, and cohesive marker presence.

Sixty-two essays were collected from 31 students. Of these students, 14 were placed in level 3 of the Intensive English Program, 13 were in level 4, and 4 were in level 5. The class

consisting of all of the level 4 students bore results different than the other courses so was examined separately following the analysis of the combined groupings. Discussion of this class's results is included in the limitations section of this paper.

The first research question posed for this project concerns the effect of meditation on composition word count, word variety, and presence of cohesive markers. The results of these three factors were analyzed utilizing a t-test.

Table 2

Word Count, Word Variety, and Cohesive Markers Comparison

		Paired Differences				t	Sig. (2-tailed)		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	WordCont Pre WordCount Post	7.500	96.641	17.084	-27.343	42.343	.439	31	.664
Pair 2	WordVariety Pre WordVariety Post	5.813	35.400	6.258	-6.951	18.576	.929	31	.360
Pair 3	CohesiveMarkers Pre CohesiveMarkers Post	-.37931	6.24593	1.15984	-2.75514	1.99652	-.327	28	.746

Analysis of these essay aspects was conducted via a paired samples t-test. All three aspects of word count ($t = .439$, $df = 31$, $p < .664$), vocabulary diversity ($t = .929$, $df = 31$, $p > .360$), and cohesive markers ($t = -.327$, $df = 28$, $p > .746$) were found to be statistically insignificant.

Student perceptions. Student perceptions of their own levels of mindfulness and anxiety were investigated through the use of two surveys and a select number of interviews following the data collection.

The first survey, bearing 19 questions, was meant to gauge student writing anxiety. The second survey, containing 15 questions, posed questions related to mindfulness. Participants were asked to rank their responses by choosing one of the following options: never, rarely, sometimes, usually, and always. These answers were then coded: the lower numbers aligned with more negative feelings and the higher numbers with those indicating a more positive answer. Thus, a score of 1 would mean that a respondent felt very negatively about a question and a score of 5 would indicate extreme positivity. Both surveys were given concurrently before the research began and once following the completion of the second essay. Overall, the surveys' results were statistically insignificant; however, the results of the pre-meditation and post-meditation surveys, bore a .907 per Cronbach's Alpha, indicating that they were reliable.

While the overall results were insignificant, particular questions did produce significant results.

To determine if there were any differences in results from the participants' pre and post treatment surveys, a paired T-test was conducted. While the majority of the questions

didn't bear a two-tailed significance level appropriate for consideration (that being one below .05), six questions from the writing anxiety survey did show significance.

Table 3

Significant Writing Anxiety Survey Results

Question #	Mean Pre-Score	Mean Post-Score	t-value	df	Significance
4	3.81	3.41	2.180	31	.039
7	2.93	3.41	-2.565	31	.016
9	2.93	2.52	2.508	31	.019
15	3.26	3.63	-2.078	31	.048
16	3.52	3.11	2.508	31	.019

Question 4 was phrased, "I choose to write down my thoughts in English." Prior to the meditation session, participants gave a mean score of 3.81. This score put the overall answer as closer to a "usually" answer indicating that students felt positive about this decision. When students answered this question again following their meditative practice and second essay composition, the mean was 3.41 indicating that their feelings of positivity decreased. The difference between the two means was .40.

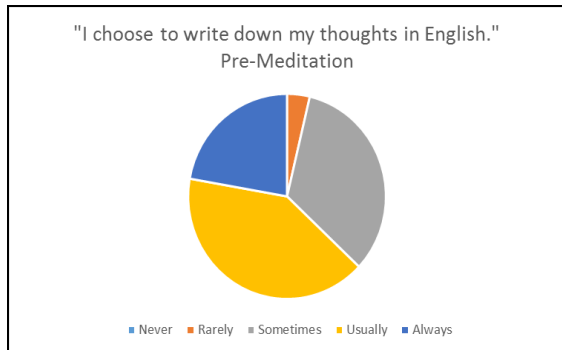


Figure 1. Pre Meditation Question 4 Comparison.

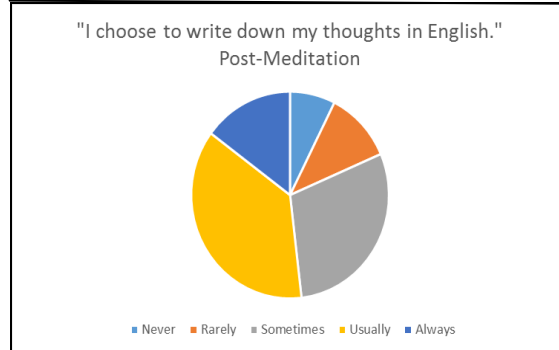


Figure 2. Post Meditation Question 4 Comparison.

Question 7 was “I worry that my English essays are a lot worse than others’.” The pre-meditation mean for this question was 2.93, putting the answer close to a “sometimes.” Following the meditation, they answered with a mean of 3.41—showing a .48 difference and indicating greater feelings of positivity. This would indicate a response that they do not worry that their essays are a lot worse than others.

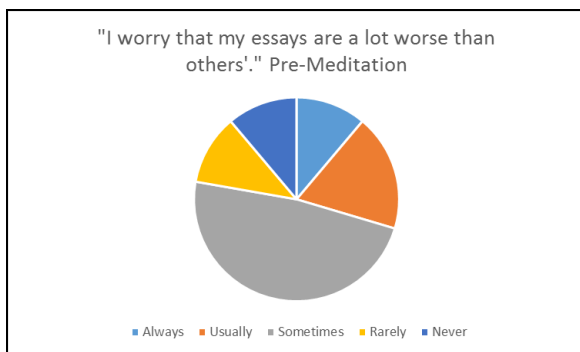


Figure 3. Pre Question 7 Comparison

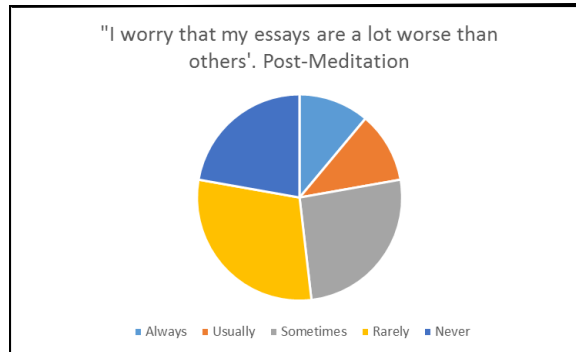


Figure 4. Post Question 7 Comparison

Question 9 was “If my English composition is to be evaluated, I would worry about getting a very poor grade.” The pre-meditation mean was 2.93 and the post-meditation mean

was 2.52. The difference between these two is .59. This would indicate that students felt increasingly worried about essay assessment following the meditative session.

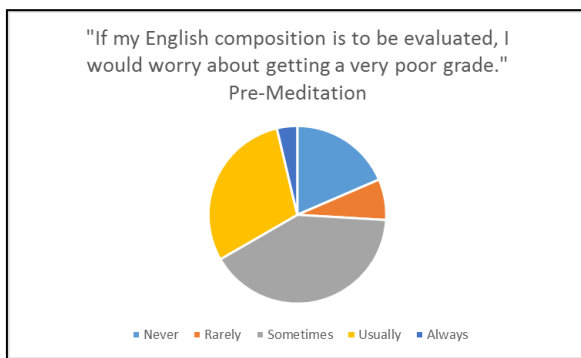


Figure 5. Pre Question 9 Comparison

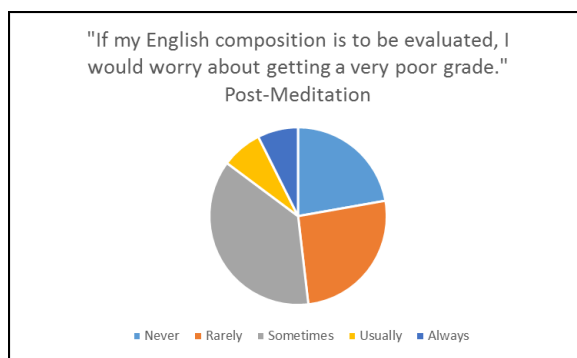


Figure 6. Post Question 9 Comparison

Question 15 was "I freeze up when unexpectedly asked to write English compositions." The mean score of the pre-test was 3.26 while the mean of the post-test was 3.63. This difference of .36 indicates that the participants felt as though they "freeze up" less often.

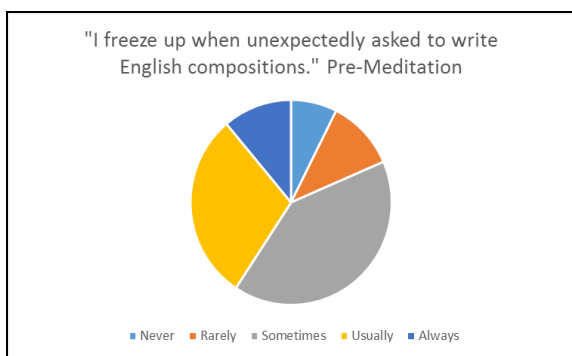


Figure 7. Pre Question 15 Comparison

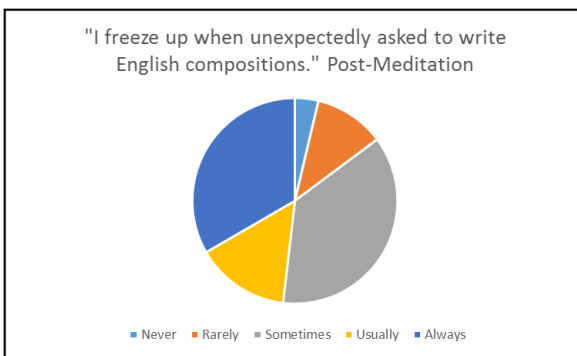


Figure 8. Post Question 15 Comparison

Finally, question 16 was "When I write in English, my mind is very clear." The pre-meditation mean for this question was 3.52, while the post was 3.11. This .41 difference

shows that participants felt as though their minds were increasingly unclear when writing in English.

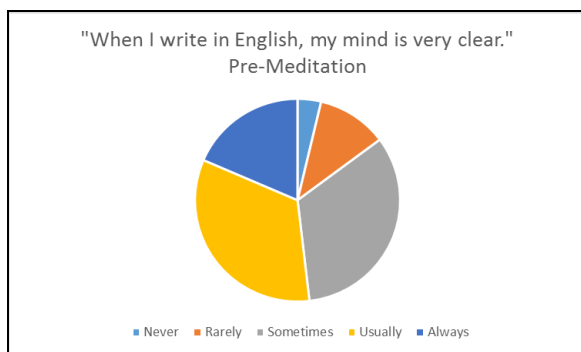


Figure 9. Pre Question 16 Comparison

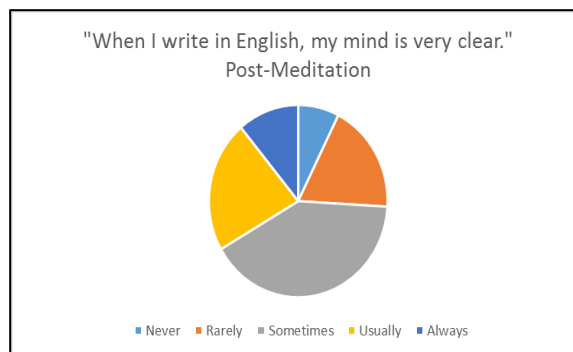


Figure 10. Post Question 16 Comparison

None of the questions on the mindfulness survey showed appropriate levels of significance.

The surveys were additionally investigated to determine if there was any overall change in students' emotional response to essay writing. The writing anxiety survey showed no significant change ($t = .345$, $df = 26$, $p < .733$) nor did the mindfulness survey ($t = .931$, $df = 26$, $p < .361$).

The reliability for the surveys given before and after participation in the meditation was deemed appropriate, with Cronbach's Alpha at .907.

In addition to the surveys, four students were interviewed. All students were asked if they would be willing to participate in a post-participation interview. All students who replied "yes" were contacted and four replied and consented to the interview. All participants were from different participating classes. Three of the participants were female and one was male.

Two participants were from Saudi Arabia, one was from Burkina Faso, one was from Burundi.

When asked about anxiety in relation to writing, two responded that they did not get nervous when writing, while two responded that they did get nervous. One noted, that this particular anxiety has troubled her greatly throughout her English education.

“I’m very very nervous when I wrote I don’t like to, basically I don’t like writing so and I feel very very nervous when I write something”

“Sometimes I can’t generate my ideas and make them and I am afraid I have a low grade or something like that”

The interview began with inquiry into what students knew of meditation. While some of them associated the term with yoga, others said that they thought it was more in relation to breathing. Of the individuals interviewed, three of them noted that, even before they participated in this study they regularly chose, on their own, to take deep breaths in times of high stress, such as a test, paper, or speech. Several of the students noted that there was difficulty paying attention to the guided meditation as other students were being disruptive and there was a great deal of extra noise outside the classroom. Additionally, one had difficulty with the English level of the recording and one noted that he didn’t enjoy the recording as he didn’t like “being ordered” to do things.

One area of consensus amongst the interview participants was on repetition. When asked if they would like to do some sort of meditation in class in the future, they all responded positively. A female participant from Burundi noted,

“Yeah I think it can help students like umm I can give you an example like when before the test before the test every student uhh stressed that ‘I’m gonna fail, I’m gonna fail’ but when we start with the meditation you will be relaxed and uhh the

teacher can say that when you gonna start the test the teacher say that it's easy you gonna pass you gonna do well but we can't trust the teacher it's easy for him but not easy for us but when he starts like and we he do like those kind of meditation we can we can feel relaxed and pass the test."

Chapter V: Discussion

Summary of Results

This study indicates that there is no significant change in student writing ability in terms of lexical variety, passage length, or presence of cohesive markers resulting from one session of meditation. However, the post-participation interviews, coupled with prior research on the topic, seem to suggest that longer term meditative opportunities would be appreciated by students and may also be potentially beneficial for academic achievement.

Five of the 34 survey questions were found to be statistically significant. The statements “I choose to write down my thoughts in English,” “If my English composition is to be evaluated, I would worry about getting a very poor grade,” and “When I write in English my mind is very clear” were all statistically significant and indicated a negative response to the meditation session. The statements “I freeze up when unexpectedly asked to write English compositions” and “I worry that my English essays are a lot worse than others” were also significant, yet indicated a positive response to the meditation.

While these questions combine to illustrate an overall picture of participant writing anxiety, the majority of questions within Cheng’s Writing Anxiety Scale serve to specify a particular anxiety. The statements, “If my English composition is to be evaluated, I would worry about getting a very poor grade” and “I worry that my English essays are a lot worse than others” are both placed under the subscale related to cognitive anxiety. It is interesting that these two questions, both meant to assess a similar emotion, resulted in opposite impressions. As the responses seem to cancel each other out, I will not elaborate on their results. The statement of “I choose to write down my thoughts in English” is categorized

under the Avoidance Behavior Subscale, meaning that this anxiety is expressed through the deliberate evasion of writing tasks. In this investigation, students showcased increased desire to avoid the writing task. To reiterate, meditation, as has been described earlier, is a method designed to increase one's mindfulness. Mindfulness is the ability to focus on one particular thing, while avoiding all others (Albrecht et al., 2012). The UCLA guided meditation teaches listeners to push away diversions toward the goal of a single-minded focus on breathing. Essentially, it is teaching avoidance. One could hypothesize that this directive urges participants toward a stronger rejection of the writing task (and, theoretically, any other task they seek to avoid).

The last subcategorized statement "I freeze up when unexpectedly asked to write English compositions" is listed under the Somatic Anxiety Subscale. Somatic anxiety is that which is felt through bodily symptoms (Cheng, 2004). The positive response to this statement, following the meditation, indicates an improved sense of physicality when approaching the writing task. The guided meditation chosen for this research project vocalizes a great deal about the sensation of one's body with phrases such as "Noticing the shape of your body: the weight, touch. And let yourself relax and become curious about your body seated here: the sensations of your body, the touch, the connection with the floor or the chair" (UCLA Mindfulness Awareness Research Center, 2013). This focused attention to the participants' sense of body and space may have shifted their attention away from any possible physical expressions of somatic anxiety.

While the majority of meditation-related research focuses on the impact after longer spans of time, there is burgeoning research which seems to show that, while the positive

benefits increase with time, there is good to be had without the long-term time investment. A study conducted in 2010 which involved only 3 days of meditation (with the time only totaling 1 hour) found that the treatment reduced participants' "negative mood, depression, fatigue, confusion, and heart rate" (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). More related to the academic focus of this research, another investigation of meditation found improved cognitive functioning and decreased anxiety after five twenty-minute sessions of meditation (Yi-Yuan et al., 2007). Seven days of meditation showed improved creativity evidenced by participant performance on divergent tasks (Ding, Tang, Posner, & Tang, 2014). Little research has been conducted on the impact of only one session of meditation.

Pedagogical Implications

While the results of this project were of minor significance, overall research into the efficacy of meditation as a classroom tool is persuasive and largely positive (Goldin et al. 2009, Heeren & Philippot, 2011). Indeed, as evidenced in post-participation interviews, several students already practiced controlled breathing though they were not familiar with the term "meditation".

It is not difficult to provide students with the opportunity to meditate. It requires only as long a time as a teacher deems fit, perhaps as little as a minute or two. The amount and manner of guidance that accompanies the time allotted is not static therefore adaptable to any classroom situation.

Upon completion of the research portion of this project, I gave a presentation on the topic at a statewide conference. The presentation included information directly from my own investigation as well as from supplemental sources. I created a guide for elementary ESL

instructors in implementation of meditation within the classroom and it was distributed to attendees. In the months that have passed since this presentation, I have heard anecdotal reports of different experiences that have come about as a result. The experiences have been uniformly positive.

Within my own classrooms, as well as those I have been observing, I see meditative techniques being used. The prevalence and positivity associated with this practice tells me that the relationship between learning and meditation will likely only grow and strengthen.

Limitations

While this study intentionally excluded direct contact between the research subjects and the researcher until after the data collection had been completed, this decision created confusion which may have produced unintended ramifications. All instructors involved with data collection met individually with the researcher and were given sheets explaining the data collection protocol and received direct instruction on how the data collection should be conducted. On the days of data collection, the researcher went to all rooms before class began and ensured that all materials were provided and technology was functioning.

However, in one classroom, the instructor forgot that data collection would be held in a computer lab different from that originally planned. Thus, the class arrival was delayed. Although the instructor indicated that, other than the potential impact of site confusion, the data collection was conducted as planned, the results of this class were sharply different than those from the three other participating classes. It is possible that the delay imposed by having to travel from one classroom to another, did not leave sufficient time within the class period for essay writing to be completed.

These suspicions led to a decision to re-analyze the data, separating this one class from the other participating classes. This analysis resulted in significance in several factors. Word count analysis of the essays written with and without meditation from this class showed a mean decrease of 69.08 words on the second day, after meditation ($t = 4.317$, $df = 12$, $p < .001$). Coinciding with the decrease in words, analysis of word variety showed a decrease of 25.39 ($t = 3.004$, $df = 12$, $p < .011$). No significant decrease was found on the cohesive markers.

However, the paired-samples t-test results of the rest of the students who were not in this individual class were still insignificant. Word count comparisons were found to be statistically insignificant. ($t = 1.569$, $df = 18$, $p < .134$). Word variety was similarly found to be insignificant ($t = 1.008$, $df = 18$, $p < .327$). Finally, a comparison of the number of cohesive markers was also found to be insignificant. ($t = -.791$, $df = 16$, $p < .440$).

Another limitation of this study is the study size. The program from which student participants were selected is not large to begin with. When the level requirements and the non-participating class are factored in, the overall number of participants is far fewer than hoped for.

All other studies relating meditation to academic performance provided multiple sessions of meditation. While this study was designed to specifically evaluate the impact of one session, further research could and should be done to evaluate ESL writing production as impacted by meditation over a longer span of time.

Finally, as with most research projects, participants could inevitably have found themselves vulnerable to the Hawthorne Effect. This states, in essence, that research

participants behave abnormally when they are aware of being observed (Gass & Mackey, 2007). Since the participants were aware that their survey results and essays would be examined to investigate the effect of meditation on writing, they may have altered their effort in an attempt to bias (either consciously or not) the results. The researcher specifically chose to remain absent for the data collection to minimize this effect.

Conclusion

Through surveys and interviews of intermediate to high level ESL students, this study sought to discover whether one session of meditation would have an impact on essay writing in terms of passage length, diversity of vocabulary, presence of cohesive markers and emotional affect. No significant impact was found on the essays written following one session of meditation in terms of length, variety of vocabulary, or cohesive markers. Specific survey questions yielded significant results, but the significance did not point to either a positive or negative reaction to the meditation. A limited subject post-participation interview found that some students already engage in some type of breathing practice before a challenging academic task, but did not specifically identify it as “meditation.” All interview participants stated that they would appreciate further opportunities to meditate in the classroom.

Writing is one of the most challenging and, often, stressful tasks put to second language learners. The anxiety potential in this task can influence overall performance. While, this project did not produce conclusive results, prior research on the topic has yielded compelling evidence that multiple meditative sessions have a positive effect on academic performance (Goldin et al., 2009, Heeren & Philippot, 2011). Although meditation may not aid all participants, it is easy for many classroom instructors to provide students with time and

guidance to initiate and grow their own meditative practices and, potentially, provide them with emotional and academic benefits.

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Appendix A

Writing and Mindfulness Surveys

Writing Survey:

For each of the questions below choose one (1) box that best describes your experience.

1. When writing in English, I'm not nervous at all.

Never Rarely Sometimes Usually Always

2. I feel my heart pounding when I write English essays when there is limited time.

Never Rarely Sometimes Usually Always

3. While writing English compositions, I feel worried if I know they will be graded.

Never Rarely Sometimes Usually Always

4. I choose to write down my thoughts in English.

Never Rarely Sometimes Usually Always

5. While writing in English, I often worry that I would use expressions and sentence patterns improperly.

Never Rarely Sometimes Usually Always

6. I do my best to avoid writing English compositions.

Never Rarely Sometimes Usually Always

7. I worry that my English essays are a lot worse than others'.

Never Rarely Sometimes Usually Always

8. I tremble or sweat when I write English compositions under time limits.

Never Rarely Sometimes Usually Always

9. If my English composition is to be evaluated, I would worry about getting a very poor grade.

Never Rarely Sometimes Usually Always

10. When I write in English, my ideas and words usually flow smoothly.

Never Rarely Sometimes Usually Always

11. Unless I have no choice, I would not use English to write compositions.

Never Rarely Sometimes Usually Always

12. I feel stressed when I write English compositions when there is limited time.

Never Rarely Sometimes Usually Always

13. While writing in English, I worry that the ways I express and organize my ideas are not correct for English writing.

Never Rarely Sometimes Usually Always

14. I'm afraid that the other students would make fun of my English essay if they read it.

Never Rarely Sometimes Usually Always

15. I freeze up when unexpectedly asked to write English compositions.

Never Rarely Sometimes Usually Always

16. When I write in English, my mind is very clear.

Never Rarely Sometimes Usually Always

17. I worry at all about what other people would think of my English compositions.

Never Rarely Sometimes Usually Always

18. I feel my whole body rigid and tense when I write English compositions.

Never Rarely Sometimes Usually Always

19. I'm afraid that my English compositions would be rated as very poor.

Never Rarely Sometimes Usually Always

*Adapted from Cheng (2004)

Mindfulness Survey: For each of the questions below choose one (1) box that best describes your experience.

1. When I'm walking, I notice the feelings of my body moving.

Never Rarely Sometimes Usually Always

2. I'm good at finding words to describe my feelings.

Never Rarely Sometimes Usually Always

3. I can feel my emotions without having to act.

Never Rarely Sometimes Usually Always

4. When I do things, my mind wanders off and I'm easily distracted.

Never Rarely Sometimes Usually Always

5. I watch my feelings without getting lost in them.

Never Rarely Sometimes Usually Always

6. I tell myself I shouldn't be feeling the way I'm feeling.

Never Rarely Sometimes Usually Always

7. I have trouble thinking of the right words to express how I feel about things

Never Rarely Sometimes Usually Always

8. I make judgments about whether my thoughts are good or bad.

Never Rarely Sometimes Usually Always

9. I find it difficult to stay focused on what's happening in the present.

Never Rarely Sometimes Usually Always

10. In difficult situations, I can pause without immediately reacting.

Never Rarely Sometimes Usually Always

11. I tell myself that I shouldn't be thinking the way I'm thinking.

Never Rarely Sometimes Usually Always

12. I notice the smells of things.

Never Rarely Sometimes Usually Always

13. Even when I'm feeling terribly upset, I can find a way to put it into words.

Never Rarely Sometimes Usually Always

14. I pay attention to how my emotions affect my thoughts and behavior.

Never Rarely Sometimes Usually Always

15. I find myself doing things without paying attention.

Never Rarely Sometimes Usually Always

*Adapted from Baer, Smith, Hopkins, Krietemeyer, and Toney (2006)

Background Information:

Gender: Male Female Age: _____ (in years)

Level in the IEC: Level 3 Level 4 Level 5

Home country: _____ First/native language: _____

Other languages known: _____

Time spent studying English: _____ (years) _____ (months)

Semesters studying English in the IEC: _____ (semesters)

Have you had any previous experience with meditation: Yes No

If yes, describe: _____

INFORMATION

- This is NOT a test.
- Your name will NOT be used after the data have been recorded for analysis.
- The data will be used ONLY for academic research.
- Your participation is voluntary. You may withdraw any time you want.
- Even if you decide not to do this, it will NOT affect your relations with your instructor, the researcher, or the university.
- Your participation will NOT affect your grades.
- The result from the research may be presented or published. (Your name will NEVER be used.)

If you give your permission to use the data for research, please sign your name.

Signature: _____

Date: _____

For questions, please contact:

Nicole Wurdak
MA-TESL Program
Wuni1201@stcloudstate.edu

Thank you for your participation! 😊

Appendix B

Interview Questions

Bio Questions

- What is your age?
- How many years have you been studying English in the United States?
- How many years have you studied English total?
- How long have you been writing essays in English?

Interview Questioning Route

1. How do you feel about the experience of essay writing in English?
2. What do you consider to be your greatest challenges when writing English compositions?
3. Have you heard of meditation prior to this experience?
 - a. If so, what have you heard about it?
4. Have you practiced meditation prior to this experience?
 - a. If so, in what context?
 - b. If so, how often?
5. How would you describe your mood on the days that the essays were written?
6. How would you describe your experience with the meditation?
7. How do you feel the meditation affected you as you wrote your essay?
8. Given the opportunity would you participate in mediation before writing tasks in the future?
 - a. Why or why not?

9. Mindfulness is described as “the ability to pay attention to what you’re experiencing from moment to moment—without drifting into thoughts of the past or concerns about the future, or getting caught up in opinions about what is going on.”
10. Do you believe that practicing meditation impacted your general sense of mindfulness?
11. I want to know about students’ impressions of using meditation as a means to decrease writing anxiety and increase feelings of mindfulness. Is there anything we didn’t talk about that is important?

Appendix C

Data Collection Protocol

The Impact of Meditation on ESL Students' Writing Teacher Protocol:

General Notes:

1. The data collecting portion of class must be held in a computer lab with each student given access to a computer.
2. On Day 2, before class begins, instructor must practice playing the guided audio, ensuring that all technological equipment (speakers, computer, etc.) is in working condition.
3. If any student decides not to participate in this study, please have them remain outside the classroom while students are completing surveys and participating in the meditation, but remain in the classroom, as a fully participating member, during the essay writing portion of class.
4. The meditation used for this thesis is solely a breathing meditation and has no religious or otherwise spiritual linkage.

Day 1:

9-9:40—Class will proceed under the directive of the instructor, typical activities will occur.

9:40-9:45—The teacher will instruct the students that:

1. *You are being invited to participate in a study on the effect of meditation on writing. It's not required that you participate, but, whether you participate or not, we will all be writing essays during class time. We will be writing 2 essays this week, one today and one on Friday. (substitute "today" and "next Wednesday" for Casey). These essays will not be graded, but will be considered part of your classroom participation and may be used for follow up activities.*
2. *If you decide to participate in the study you will also be asked to complete 2 surveys and one 5-minute meditation session. The surveys will take approximately 10 minutes of time.*
3. *Your surveys, along with your essays will be analyzed for this study, but will be entirely anonymous*

9:45-9:55—The instructor will hand out the consents and the surveys. The teacher will say:

1. *If you are interested in participating, please read and sign the consent form and background information, then answer the 34 questions listed. If you are not interested in participating, please return the form to me. When you are finished, please return the forms to me and you may take a break. Class will start again at 10:05*

9:55-10:05—Students will be allowed to leave the classroom and take a break.

10:05–Students will return to the classroom where they will be seated at a computer. The instructor should have two email addresses written on the whiteboard: his/her own and wuni1201@stcloudstate.edu.

1. *Please log into a computer and open up Microsoft word. In a minute I will be giving you each your topic to write about. Write this essay to the best of your abilities and when you are finished, please email it to me and to Nix. I've written our email addresses on the board. Please do not discuss your essay with other students in the IEC. You will have 45 minutes to complete your essay.*

Instructor will randomly provide each students with a small piece of paper with 1 of 2 possible prompts written on it.

Notes:

1. The instructor should not talk further about the essay or this thesis project until after the second day of data collection occurs upon which point the essays can be used as part of other classroom activities.

Day 2: 9-9:40–Class will proceed under the directive of the instructor, typical activities will occur.

9:40-9:50–Students will be allowed to leave the classroom and take a break. Instructor will say:

1. *When you return to class, we will be writing another essay.*

9:50-10:40–Students will return to the classroom. Instructor will say:

1. *Please sit silently and follow this guided meditation. Please do not speak when it is over. When you finish listening to the meditation I will provide you with an essay prompt and we will begin writing our second essay. Write this essay to the best of your abilities and when you are finished, please email it to me and to Nix. I've written our email addresses on the board. Please do not discuss your essay with other students in the IEC. You will have 45 minutes to complete your essay.*

Play the 5 minute Breathing Meditation here: <http://marc.ucla.edu/body.cfm?id=22>

1. Upon completion and in silence, the instructor will give students the alternate essay prompt than they received during the previous session. Students will be given 45 minutes to write their essay before emailing it.

10:40-10:50–The instructor will say:

1. *Please complete these surveys once more and hand them in to me when you are finished. As a reminder, you may be contacted by the researcher to participate in a follow-up interview.*

Appendix D

Cohesive Marker Evaluation Protocol

Cohesion

1. Reference (REF): two linguistic elements are related in what they refer to
 - a. Jan lives near the park. He often goes there.
 - b. Largely created by the use of personal (she/he/it, etc.) and demonstrative (this/that/these/those) pronouns.

2. Substitution (SUB): a linguistic element is not repeated, but is replaced by a substitution item.
 - a. Saan loves strawberry ice cream. He has one every day.

3. Ellipsis (EL): one of the identical linguistic elements are omitted.
 - a. All the children had an *ice cream* today. Eva chose strawberry. Arthur had orange and Willem too.
 - b. Ellipsis and substitution allow for parts of a sentence to be omitted in referring to an earlier verbal or nominal element (for example: I told you SO; I've got ONE)

4. Conjunction (CON): a semantic relation is explicitly marked.
 - a. Eva walked into town, because she wanted an ice cream.
 - b. Conjunction establishes logico-semantic cohesive ties through the use of conjunctive 'markers' which 'move the text forward'

5. Lexical Cohesion (LC): two elements share a lexical field (collocation).
 - a. Why does this little boy wriggle all the time? Girls don't wriggle.

- b. Lexical cohesion is produced through the use of repetition, synonymy, meronymy and collocation.

*Information taken from Halliday and Hasan (1976) and Cotton and Wilson (2008).

Task:

- Mark each cohesive relationship with a line connecting the two related items. On the bottom of the sheet, total the number of cohesive relationships making note of which type (as listed above) is included using the abbreviated form.
- Both readers must have an 80% inter-rater reliability.
- Both readers will be trained utilizing the same model and participate in 1-3 samples before proceeding to separately analyze each essay.

Appendix E

Survey Results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	WQ1_Pre	2.85	27	1.231	.237
	WQ1_Post	2.96	27	1.427	.275
Pair 2	WQ2_Pre	2.89	27	1.155	.222
	WQ2_Post	3.22	27	1.311	.252
Pair 3	WQ3_Pre	2.74	27	1.130	.217
	WQ3_Post	2.89	27	1.188	.229
Pair 4	WQ4_Pre	3.81	27	.834	.160
	WQ4_Post	3.41	27	1.118	.215
Pair 5	WQ5_Pre	2.85	27	.989	.190
	WQ5_Post	2.56	27	.934	.180
Pair 6	WQ6_Pre	3.37	27	1.391	.268
	WQ6_Post	3.22	27	1.281	.247
Pair 7	WQ7_Pre	2.93	27	1.107	.213
	WQ7_Post	3.41	27	1.279	.246
Pair 8	WQ8_Pre	3.70	27	1.235	.238
	WQ8_Post	3.48	27	1.221	.235
Pair 9	WQ9_Pre	2.93	27	1.141	.220
	WQ9_Post	2.52	27	1.156	.222
Pair 10	WQ10_Pre	3.37	27	.967	.186
	WQ10_Post	3.11	27	.974	.187
Pair 11	WQ11_Pre	3.70	27	.993	.191
	WQ11_Post	3.67	27	1.000	.192
Pair 12	WQ12_Pre	2.93	27	1.174	.226
	WQ12_Post	2.74	27	1.163	.224
Pair 13	WQ13_Pre	2.74	27	1.347	.259
	WQ13_Post	2.70	27	1.137	.219
Pair 14	WQ14_Pre	3.67	27	1.414	.272
	WQ14_Post	3.67	27	1.240	.239
Pair 15	WQ15_Pre	3.26	27	1.059	.204
	WQ15_Post	3.63	27	1.182	.227
Pair 16	WQ16_Pre	3.52	27	1.051	.202
	WQ16_Post	3.11	27	1.086	.209

Pair 17	WQ17_Pre	3.37	27	1.305	.251
	WQ17_Post	3.48	27	1.282	.247
Pair 18	WQ18_Pre	3.63	27	1.275	.245
	WQ18_Post	3.67	27	1.038	.200
Pair 19	WQ19_Pre	2.78	27	1.219	.235
	WQ19_Post	3.11	27	1.396	.269
Pair 20	MQ1_Pre	3.07	27	1.412	.272
	MQ1_Post	3.15	27	1.231	.237
Pair 21	MQ2_Pre	3.70	27	.869	.167
	MQ2_Post	3.37	27	1.115	.214
Pair 22	MQ3_Pre	3.74	27	.903	.174
	MQ3_Post	3.48	27	1.051	.202
Pair 23	MQ4_Pre	3.15	27	1.099	.212
	MQ4_Post	3.22	27	.751	.145
Pair 24	MQ5_Pre	3.07	27	1.141	.220
	MQ5_Post	3.07	27	1.035	.199
Pair 25	MQ6_Pre	2.74	27	.944	.182
	MQ6_Post	3.04	27	1.018	.196
Pair 26	MQ7_Pre	3.37	27	1.043	.201
	MQ7_Post	3.44	27	1.013	.195
Pair 27	MQ8_Pre	3.81	27	1.001	.193
	MQ8_Post	3.44	27	1.050	.202
Pair 28	MQ9_Pre	3.41	27	1.118	.215
	MQ9_Post	3.19	27	.962	.185
Pair 29	MQ10_Pre	2.93	27	.917	.176
	MQ10_Post	3.00	27	.734	.141
Pair 30	MQ11_Pre	3.19	27	1.145	.220
	MQ11_Post	3.22	27	1.121	.216
Pair 31	MQ12_Pre	3.78	27	1.050	.202
	MQ12_Post	3.63	27	1.334	.257
Pair 32	MQ13_Pre	3.33	27	1.074	.207
	MQ13_Post	3.26	27	.944	.182
Pair 33	MQ14_Pre	3.93	27	.829	.159
	MQ14_Post	3.78	27	.934	.180
Pair 34	MQ15_Pre	2.67	27	.832	.160
	MQ15_Post	2.48	27	1.051	.202

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	WQ1_Pre - WQ1_Post	-.111	.934	.180	-.480	.258	-.618	26	.542
Pair 2	WQ2_Pre - WQ2_Post	-.333	1.144	.220	-.786	.119	-1.515	26	.142
Pair 3	WQ3_Pre - WQ3_Post	-.148	.718	.138	-.432	.136	-1.072	26	.294
Pair 4	WQ4_Pre - WQ4_Post	.407	.971	.187	.023	.792	2.180	26	.039
Pair 5	WQ5_Pre - WQ5_Post	.296	1.203	.232	-.180	.772	1.280	26	.212
Pair 6	WQ6_Pre - WQ6_Post	.148	.770	.148	-.156	.453	1.000	26	.327
Pair 7	WQ7_Pre - WQ7_Post	-.481	.975	.188	-.867	-.096	-2.565	26	.016
Pair 8	WQ8_Pre - WQ8_Post	.222	1.251	.241	-.273	.717	.923	26	.364
Pair 9	WQ9_Pre - WQ9_Post	.407	.844	.162	.074	.741	2.508	26	.019
Pair 10	WQ10_Pre - WQ10_Post	.259	.984	.189	-.130	.649	1.369	26	.183
Pair 11	WQ11_Pre - WQ11_Post	.037	1.255	.242	-.459	.534	.153	26	.879
Pair 12	WQ12_Pre - WQ12_Post	.185	1.145	.220	-.268	.638	.841	26	.408
Pair 13	WQ13_Pre - WQ13_Post	.037	1.192	.229	-.435	.509	.161	26	.873
Pair 14	WQ14_Pre - WQ14_Post	.000	1.209	.233	-.478	.478	.000	26	1.000
Pair 15	WQ15_Pre - WQ15_Post	-.370	.926	.178	-.737	-.004	-2.078	26	.048

Pair 34	MQ15_Pre - MQ15_Post	.185	.786	.151	-.126	.496	1.224	26	.232
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