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## Mindful Teachers: Case Studies of Intermediate Teachers and Their Mindful Teaching Practices

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MINDFUL TEACHERS: CASE STUDIES OF INTERMEDIATE TEACHERS AND  
THEIR MINDFUL TEACHING PRACTICES

by

CHRISTINE EDWARDS SHERRETZ

(Under the Direction of Marlynn Griffin)

ABSTRACT

For generations, educational philosophers, parents, business people, and practitioners have argued that public schools promote mindless standardization that stifles creativity, curiosity, and enthusiasm for learning. The case has been made that instead of mindlessness, schools should be a place where mindful individuals can flourish. Langer (1989, 1997) described mindful individuals as displaying the following characteristics: (a) openness to novelty, (b) alertness to distinction, (c) sensitivity to different contexts, (d) awareness of multiple perspectives, and (e) orientation in the present. Langer (2000) states that mindlessness might be described as a lack of these attributes.

The purpose of this research was to paint a picture of mindfulness in education by studying three teachers who have been identified as mindful. This research examined what it means to be a mindful teacher by exploring the teaching practices that three mindful teachers displayed. To accomplish this goal, three intermediate teachers were observed over a three-month period. Interviews and an analysis of classroom documents were also conducted in order to ascertain common teaching practices that mindful teachers share.

Longitudinal case studies showed that these three mindful teachers shared several characteristics. First, they emphasized process over outcome in problem solving.

Secondly, the teachers gave students choices in the mode they used to complete classroom assignments and choices in the social settings in which these assignments were completed. Thirdly, the teachers all encouraged elaboration of thinking through effective questioning and modeling metacognitive strategies. Lastly, the teachers facilitated a similar classroom atmosphere. Few classroom management or behavior issues were noted. Emphasis was placed on building relationships with students, creating an atmosphere of fun, and having the ability to attend to multiple tasks at one time.

Encouraging mindful teaching practices would have many implications on the field of education. These implications include: (a) a change in assessment practices from a linear standardized based assessment to a more open ended assessment, (b) an alignment of mindfulness with current constructivist theories and instructional practices, and (c) encouraging faculty and staff in higher education to develop relationships and connections with each other and their students.

INDEX WORDS: Mindfulness, Teachers, Ellen Langer

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Electronic Version Approved:  
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## DEDICATION

I would like to dedicate this dissertation to my grandparents: Grandpa Wayne, Wilma, and Popcorn. All of you have shown me what it means to be mindful. You endured World War II and many other hard times, but you chose to look at the world from a mindful perspective.

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## CHAPTER 1

### INTRODUCTION

For generations, educational philosophers, parents, business people, and practitioners have argued that public schools promote mindless standardization that stifles creativity, curiosity, and enthusiasm for learning. Dewey (1933) argued that schools try to instill uniformity and therefore rule out wonder. As a result, schools are not energetic and vital. Along that same line, Whitehead (1929) stated that schools were dominated by routine and teaching of, "...inert ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combinations" (p. 1). Silberman (1970) wrote that, "...what is mostly wrong with schools and colleges is mindlessness" (p. 36). Gardner (1983) argued that most schools never go beyond rote memorization and the superficial learning of facts.

Kami and Lewis (1991) demonstrated the degree of pervasive mindlessness in a study they conducted. In this study, second graders were given the following problem: There are 26 sheep and 10 goats on a ship. How old is the captain? Eighty-eight percent of the students answered 36, and not a single student commented that the problem did not make any sense despite the fact that these students scored above the 85<sup>th</sup> percentile on average on standardized tests in math.

As a student for almost 30 years, I can attest to many instances of mindlessness in education. As an eighth grade algebra student, I remember receiving a lowered grade because I used my own invented algorithm for solving binomials instead of using the teacher's method. It did not seem to matter to the teacher that my way was consistently correct, much faster, and made sense to me. Why? Ms. Perkins, my eighth grade algebra

teacher, was convinced that there was only one right way to solve binomials. My 10th grade physics teacher insisted that I memorize the periodic table. He was convinced that I needed to know these facts by memory. Maybe someday I will be on a game show and will need that information, but I am 38 years old and have never had to recall the symbol for any of the periodic elements. In a doctoral level class I was told that my ethical stance called “conditional absolutism” was not a legitimate ethical framework. Why? I never learned why, but I assumed it was because the professor did not know this particular framework. Mindlessness seems to be pervasive in schools, but does it have to be?

The opposite of mindlessness is mindfulness. Although there are many definitions of mindfulness, for the purpose of this research the definition of mindfulness as defined by Ellen Langer (1989, 1997) will be used. Langer (1989, 1997) stated that mindfulness can be defined as the process by which an individual makes novel distinctions. “It does not matter whether what is noticed is important or trivial, as long as it is new to the viewer” (Langer, 2000, p. 1). The ability to actively seek distinctions keeps individuals situated in the present and makes them more aware of the context and perspective of present actions instead of relying on distinctions and categories from the past. Langer (1989, 1997) described mindful individuals as displaying the following characteristics: (a) openness to novelty, (b) alertness to distinction, (c) sensitivity to different contexts, (d) awareness of multiple perspectives, and (e) orientation in the present. Mindlessness, then, might be described as a lack of these attributes.

Over the past two decades, there have been experimental studies that provide the foundation for the theory of mindfulness (Langer, 1989). These studies have shown that

giving people more choices, considering different perspectives, and giving alternative forms of instruction can promote mindfulness. Lieberman and Langer (1995) found that individuals had greater recall of details in a story after reading a text from different perspectives. Nursing home patients experienced increased physical and mental engagement when given choices (Langer & Rodin, 1976); and children were more open and less prejudiced after exploring different possibilities for handicapped individuals (Langer, Bashner, & Chanowitz, 1985).

Langer (1997) argued that mindlessness can prevent learning when a student accepts pervasive mindsets that can be harmful instead of helpful. For example, Langer (2000) argued that teachers are taught that “the basics” should be second nature to students. However, many teachers rarely question what “the basics” are. Also, students who learn “the basics” mindlessly generally gain no new information from the task.

Other processes that have been assumed central to learning may lead to mindlessness. Langer (1997) asked students and teachers what they mean by paying attention. Both groups stated that it meant to hold an image still in the mind. The problem is that this is very difficult to do in real life. Langer tested this view in studies with children, college students, and adults (Bodner & Langer, 1997) and found that when people are instructed to vary a stimulus by mindfully noticing new things about it, then attention improves. Also, this mindful attention resulted in a greater liking for the task and improved memory.

There are ways to reduce mindlessness in learning. Langer (1997) explored many ramifications of inducing mindful learning. In one study (Langer & Piper, 1987), mindful instruction was used by introducing information about objects in a conditional

way, using language like “could be,” rather than the absolute way “is or can only be.” Participants given the mindful instruction were able to use the objects creatively when asked to use the object in a novel way. In later studies, this research was extended to the introduction of text in the same conditional manner. Similar benefits resulted from the mindful instruction in these studies (Langer, Hatem, Joss, & Howell, 1989).

In other studies, Liberman and Langer (1997) asked one group of students to make material more meaningful to themselves and asked another group to simply memorize the information. The meaningful group retained the information better and was able to use it in more creative ways in writing essays. Liberman and Langer (1995) also found that adding perspective produced better writing performance by students. For example, when introducing a history lesson one could say, “Here are the three reasons for the Civil War, versus “Here are three reasons for the Civil War from the perspective of...” In the study, information presented from different perspectives was learned better even though the students had to learn more information. Clearly, mindful teaching practices can have a pronounced positive effect on student learning and education.

I contend that mindfulness is an educational phenomenon that can and should be woven into the fabric of the reconceptualization of curriculum and teaching practices. One way to understand the reconceptualization of curriculum is to understand the traditional view of curriculum. Pinar as cited in Pinar, Reynolds, Slattery, and Taubman (2002) explains:

...what I mean by “traditional curriculum writing.” I mean the work of Professor Tyler, and all the work that falls under his considerable shadow.... This genre constitutes the heritage of the contemporary curriculum field, and it is a field

characterized by...the concrete ever-changing task of curriculum development, design, implementation, and evaluation. The bulk of this writing has one essential purpose; it is intended as guidance for those who work in schools. (p. 21)

In a traditional curriculum, the end product is the desired educational goal.

Intelligence and academic achievement are seen as the ability to achieve these desired outcomes. Doll (1993) explained that this thinking, "...assumes ends should be fixed prior to the implementation of means. Efficiency is measured in terms of the number of specific ends achieved and the time needed for achievement" (p. 42). The learner's role is to receive information, store it, and then act on this information at the appropriate time. It asks teachers to prepare and transmit messages about what students are required to learn. Langer (1997) argued that the traditional curriculum could promote memorization and even understanding of information; however, it may not teach the student to use the information in a different context or format.

In contrast, a reconceptualization of curriculum emphasizes the process of learning instead of arriving at a fixed answer or end product. Doll (1993) explained this aspect of a reconceptualized curriculum.

The linear, sequential, easily quantifiable ordering system dominating education today, one focusing on clear beginnings and definite endings, could give way to more complex, pluralistic, unpredictable system or network. Such a complex network will, like life itself, always be in transition, in process. A network in process is a transformative network, continually emerging -- one moving beyond stability to tap the creative powers inherent in instability. (p. 3)



This view of teaching puts the emphasis on the transition and the action. The importance is running the race, not on the specific course being run or on how the runner finishes the race. This idea meshes with Pinar as cited in Pinar, Reynolds, Slatter, and Tauban (2002), who described the purpose of reconceptualization of curriculum as, "...not to guide practitioners, as it is with the traditionalists, and to some extent with the conceptual-empiricists. Nor is it to investigate phenomena with the methods and aims of behavioral and social science" (p. 213). A reconceptualized curriculum is not clearly defined with set parameters. Instead, an understanding of a reconceptualized curriculum can be understood by what it is not. It is not a curriculum that emphasizes predetermined answers using behavioral objectives and means.

The phenomenon of mindfulness and the reconceptualization of curriculum share a similar emphasis on process. While the traditionalist's view of curriculum emphasizes content as the desired education goal, the mindfulness theory as applied to curriculum development emphasizes process before content. According to the mindfulness theory, when an individual is told how to solve a problem or told that there is only one answer to a problem, the student is being limited in his or her ability to test novel ideas. Langer (1997) contends that:

The capacity to achieve an outcome is different from the ability to explore the world and understand experience. If we can shed this outcome orientation, we may discover that the freedom to define the process is more significant than achieving an outcome that has no inherent meaning or value outside that particular setting. (p. 121)

The mindfulness theory does not have an outcome goal orientation, thus the individual is not limited to just one answer. Because there is no predictive outcome, the individual is free to be led to different, unexpected answers that are novel to the situation. Whereas, the traditional curriculum stresses guiding students and teachers toward predicted goals; the reconceptualized view stresses the importance of understanding and process.

The real educational potential of mindfulness is not in raising test scores, but in addressing other educational problems such as the ability to transfer skills and knowledge to new contexts, the development of understanding, student motivation and engagement, the ability to think creatively, and the development of self-directed learners. Mindfulness is not a quick educational fix. In order for mindfulness to be accepted as a worthwhile educational goal, the practice of mindfulness must be examined.

#### Purpose of Study

Much of education is concerned with completing end-of-the-year exams and acquiring knowledge and skills. Teachers are asked to teach according to state-mandated standards using curricular frameworks from scripted textbooks. What if education were more concerned with process than content? What if students were encouraged to think about information from various perspectives? What if students were presented with information in a conditional manner? Langer (1997) described mindful teachers as individuals who are concerned with these issues. Previous research demonstrated the conditions in which mindfulness is promoted, but there is not a clear picture of a mindful teacher. An inquiry that creates an image of mindfulness needs to be created so educators can see how mindful teachers can be successful in today's schools.

There has been a good deal of research to support the idea that, in a variety of circumstances, adults tend to interact mindlessly with the environment unless they are provoked into mindfulness (Langer, Blank, & Chanowitz, 1978; Langer & Imber, 1979). The topic of this dissertation further delineates the construct of mindfulness as it applies to mindfulness in teaching. Some questions that need further research include: What does mindfulness look like as a disposition in an educational setting? If a teacher is mindful, how will this be lived out in his or her daily teaching?

#### Research Question

The following question was addressed in this research: What does it mean to be a mindful teacher? This research examined what it means to be a mindful teacher by exploring the characteristics that a mindful teacher displays via longitudinal case studies.

#### Significance of Study

There are mindful teachers in education, but it seems that mindfulness and the current standards-based orientation are in conflict. If a teacher is mindful, what does that look like in the classroom? The purpose of this research is to paint a picture of mindfulness in education by studying three teachers who have been identified as mindful. This research is significant to me personally. I hear many colleagues complain that they can not teach mindfully because of curriculum and school policies. They state that there is too much material to cover, so they are unable to probe deeply into any area. However, I have found that many teachers are able to teach mindfully and still adhere to the district's curriculum guidelines. There are barriers to mindful teachers, but there are many different ways to respond to those barriers. It is also important to recognize that many of these barriers may be self-imposed, created by the teacher. While many

colleagues complain that they can not implement a mindful education, it is my intention to show that there are mindful teachers in our schools who are finding ways to improve learning in today's standards-based world.

## CHAPTER 2

### LITERATURE REVIEW

Individuals in and outside of education have decried mindlessness in schools and its tendency to stop creativity, originality, and enthusiasm for learning. Currently, the emphasis in education is on students knowing core knowledge that focuses on the acquisition of skills and information. Students are considered intelligent if they have mental capabilities to answer questions that have predicted answers. Ritchhart and Perkins (2000) argued that mindful teachers and students are needed in education. Mindfulness, unlike the traditional view of intelligence, has different potentialities. Mindfulness has the potential to promote the following: (a) transfer of learning and knowledge to new contexts, (b) the ability to think creatively and critically, and (c) the development of more self-directed learners.

Ritchhart (2002) and Schlinger (2003) have stated that since the 20th century, intelligence has been conceptualized from a psychometric perspective that stresses the presence of specific abilities, skills, and processing capabilities. Intelligence is measured with predicted outcomes that separate those with more ability from those with less ability. However, other, more expansive theories of intelligence are emerging. These theories extend the boundaries of intelligence beyond the psychometric perspective of ability and speed. Mindfulness is one theory of those that defines intelligence in a broader scope than the psychometric perspective. Langer (1997) made the case that mindfulness has many ramifications in various fields including education because it expands and redefines how we view intelligence. To that end, this literature review will examine research in the following areas: (a) theories of intelligence including and beyond the psychometric

perspective, (b) the theory of mindfulness and how it aligns with other views of intelligence, and (c) mindfulness in education.

## Theories of Intelligence

### *Psychometric Perspective*

Schlinger (2003) stated that since the beginning of the 20th century, intelligence has been viewed as a qualitatively unique faculty with a fixed value that individuals possess and that can be tested with intelligence tests. This view of intelligence is the psychometric perspective developed by Charles Spearman. Spearman (1927) wanted to ascertain why there is a general tendency for those who are good at one thing to be good at others. Spearman (1927) believed that this tendency is a correlation of abilities that he referred to as *g* or general intelligence. Spearman (1923) stated that *g* measured a neurologically based “power” or “energy” that drives the ability to do intellectual work (p. 5). Kline (1991) explained that Spearman’s main achievement was that he invented a statistical method called factor analysis, which could reveal this structure of abilities. Spearman (1927) defined *g* as the name for that factor that was common to all mental tests.

Schlinger (2003) explained that Spearman discovered positive correlations between similar types of tests. Not only were these tests correlated, but the test scores fell in a hierarchical pattern with the highest correlations on tests that Spearman believed required advanced abstract thinking abilities. In Spearman’s mind, these positive intercorrelations were proof that there was a common underlying factor that connected them all and this factor was *g* or general intelligence.

Schlinger (2003) stated that the concept of *g* still plays a central role in intelligence research. Gottfredson (2004) and others argued that the common factor, *g*, can be distilled from scores on any broad set of cognitive tests, and it takes the same form among individuals of every race, sex, and nation yet studied. Kline (1991) stated that intelligence can be measured with high reliability and validity. Therefore, intelligence tests could and should be used as predictors of occupational and academic achievement. Vernon (1961) stated that, on average, intelligence correlated 0.3 with success in future jobs. He concluded that this supports the notion of *g* as a basic reasoning fact.

Still, there are many arguments against the psychometric view of intelligence. Gardner, Kornhaber, and Wake (1996) explained that the psychometric view of intelligence has provided many insights into human intelligence and individual differences. However, they argued that these laboratory-based tests emphasize a very narrow band of human thinking, which predicts children's performance in school. As such, these tests focus on language and mathematics, and on contrived problems as opposed to real-world problem solving. Gardner, Kornhaber, and Wake (1996) contend that these formats are not valid because they fail to bear a resemblance to the everyday settings in which people think on a normal basis. This leads many critics to conclude that inferences about intelligence tests or problem-solving abilities based on these contrived problems may only apply to tests or lab situations and may not apply to real life situations.

Critics (Resnick, 1987; Resnick, Levine, & Teasley, 1991) argued that intelligence is not global as explained by *g*. Instead, intelligence is situated within a particular context. Gardner (1983) and Lave (1988) concurred that the ability to solve

complex problems requires the ability to use the resources of the individual, other people, and technological tools. Gardner, et. al (1996) stated that this view places intelligence in a situated or conceptualist viewpoint.

Recent theories of intelligence have attempted to explain different viewpoints of intelligence that extend the boundaries of the psychometric perspective. These theories all derive from the conceptualist framework. Four of these major theories are: (a) multiple intelligence theory, (b) practical intelligence, (c) triarchic theory, and (d) intelligence as a thinking disposition.

### *Multiple Intelligence Theory*

Howard Gardner was one of the first psychologists to challenge the view of a general intelligence and to advocate the theory of multiple intelligences. Gardner (1983) proposed seven coequal intelligences that include linguistic, logical-mathematical, visual-spatial, musical, bodily-kinesthetic, interpersonal, and intrapersonal. Later, Gardner (1999) added three intelligences: naturalistic intelligence, spiritual intelligence, and essentialistic intelligence. Humans possess a basic set of intelligences and each individual has a unique blend of these intelligences. Gottfredson (2004) stated that, “Gardner’s theory offers a useful reminder that there are many human abilities and forms of accomplishment, and it puts new labels on some of the most common of them” (p. 5).

Gardner’s theory of multiple intelligences has been embraced as a legitimate theory of intelligence (Schlinger, 2003). Traditionally, the linguistic and logical-mathematical intelligence have dominated schools. If students are gifted in those areas, they tend to succeed in schools. The students who are highly gifted in other intelligences rarely get to demonstrate their exceptional competencies because these students do not



have an avenue in which they can express their intelligence. Therefore, many teachers embrace Gardner's view and incorporate class assignments that lend themselves to other intelligences beyond the traditional linguistic and logical-mathematical intelligence. For example, suppose a class is studying the history of the Titanic. Students may be allowed to make a model or diorama of the ship, make a cartoon or storyboard of the voyage, or even write an original song. Offering these choices gives students the opportunity to demonstrate other forms of intelligence.

### *Practical Intelligence*

Another major view of intelligence is that of practical intelligence as opposed to academic intelligence, which the psychometric perspective emphasizes. Neisser (1976) was one of the first psychologists to make the distinction between academic and practical intelligence. Neisser described academic intelligence tasks as being formulated by others with information that is available from the beginning and is disembedded from an individual's ordinary experience. Academic tasks are usually well defined and have one correct answer with one method used to obtain that answer. In contrast, practical intelligence involves problems that need reformulation. They are of personal interest and lack some of the information necessary to solve the problem. Generally, a practical problem is characterized by multiple solutions to the problem and multiple ways to solve it. Sternberg, Wagner, Williams, and Horvath (1995) explained that laypersons have made distinctions between academic intelligence and practical intelligence. These can be represented by the terms "book smarts," "street smarts," "learning the ropes," and "getting your feet wet."

Sternberg, et al. (1995) explained that academic intelligence is similar to academic knowledge whereas practical intelligence is related to tacit knowledge, knowledge that is obtained without direct help from others. Formal academic knowledge is measured on intelligence tests and related aptitude tests. Tacit knowledge is action-oriented knowledge that allows a person to achieve goals that he or she values personally. The acquisition of tacit knowledge seems to be important in giving individuals the ability to be competent in real-world problems. Sternberg et al. (1995) described three characteristics of tacit knowledge: (a) tacit knowledge is procedural, (b) it is relevant to the attainment of goals people value, and (c) it is acquired with little help from others. Tacit knowledge relates to “knowing how” rather than “knowing that.” For example, an individual could know a great deal of information about medical science. However, this knowledge does not make him or her an excellent surgeon. The surgeon must have instruction from others, but the information without practice will not be valuable in helping people.

### *Triarchic Theory of Intelligence*

A third view of intelligence is the triarchic theory. Sternberg (1988) proposed that there are three types of intelligence: componential sub theory, experiential sub theory, and contextual sub theory. Sternberg (1988) explained that the componential sub theory refers to what actually happens inside a person’s head when the individual thinks intelligently. This sub theory is similar to the definition of the psychometric theory of intelligence and is evident by the ability to complete puzzles, analogies, abstract thinking, and verbal and mathematical problems. The experiential sub theory asks how a person’s experiences affect intelligence and in turn how this intelligence affects the kinds of

experiences the individual may have. This sub theory is seen in the individual's ability to create new things, engage in novel thinking, and generate new ideas. Lastly, the contextual sub theory relates to the individual's interaction in the world and how this interaction affects the world of the individual. This sub theory is referred to as practical intelligence and is evident in the individual's ability to put in practice, implement, and apply knowledge to the real world. Sternberg (1985) stated that all three sub theories are directed toward, "...purposive adaptation to, and selection and shaping of, real-world environments relevant to one's life" (p. 45).

### *Dispositional Theory of Intelligence*

The theory of intelligence as a disposition or style also challenges the psychometric position because it does not emphasize a global intelligence (i.e., *g* factor) that can be measured on intelligence tests, but instead emphasizes the development of dispositions that, "... capture one's tendency to engage in certain patterns of thinking" (p. 43). Ritchhart and Perkins (2000) defined dispositions as psychological elements that consist of three components: sensitivity, inclination, and ability. Sensitivity is an awareness and alertness to occasions for engaging in the particular disposition. Inclination is the motivation or habit to carry out that disposition and ability refers to the capability to carry out that behavior. The dispositional theory of intelligence deals with the motivational aspect of intelligence. It is the individual's ability to recognize occasions for being mindful rather than an individual's ability to be mindless. A disposition addresses the gap between one's abilities and one's actions. For example, in teaching we can have knowledge of methods of instruction, but teachers must also have the desire or will to employ these methods and the ability to know when those teaching

methods could be used. A teacher who may have a disposition to be creative in teaching may not have more ability to be creative or more motivation to be creative, but may just recognize more occasions in which he or she can be creative in instruction and then act on those occasions.

Thinking dispositions are associated with good and productive thinking and recognize the role of attitude and the importance of developed patterns of behavior in thinking. Thinking dispositions cover a broad range of fields and have many constructs. Examples of theoretical constructs used to label dispositions include rational passions (Paul, 1993), virtues (Paul, 1991), and habits of mind (Costa & Kallick, 2000; Dewey, 1933; Marzano, Brandt, Hughes, Jones, Presseisen, Rankin, & Suhor, 1988). Ritchhart (2001) explained that a focus on thinking dispositions better explains intellectual performance because it acknowledges that intellectual behavior has deep attitudinal patterns.

#### The Phenomenon of Mindfulness

Langer (1989) elaborated on the phenomenon called mindfulness that further broadens the conceptualization of intelligence beyond the traditional psychometric theory because it emphasizes situated intelligence that, "...employs a criterion of optimal fit between individual and environment" (p. 1). Mindfulness emphasizes the importance of cognitive flexibility and stresses that education is a process that is never finished. Some characteristics of mindfulness include: (a) the ability to produce novel ideas, (b) an emphasis on process before outcomes, and (c) the ability to look at information in different contexts.

Langer and Abelson (1972) began their research in mindfulness with an experiment that tested the hypothesis that much of the semantic information in social interactions never reaches an individual's consciousness because cognition is controlled by a few words or phrases that determine how that individual will behave. To test this hypothesis, Langer and Abelson (1972) conducted an experiment in which a volunteer pretending to have an injury outside a drug store requested assistance using two different scripts. Using an empathic script as people walked by, ("My knee is killing me.") resulted in more assistance from passersby (74 percent) than a script for behavioral obligation ("Would you do something for me?") for which 42 percent provided assistance. Langer used this as a starting point to study the effects related to conscious awareness of scripted information, or what was later to be defined as her concept of mindfulness.

This initial research led Langer to conclude that mindless behavior was activated by little verbal or written language analysis. In contrast, mindful behavior consisted of an awareness of semantic differences in spoken and written text and an awareness of the diversity of social information within various contexts (Langer & Abelson, 1972). Next, Langer (1975) wanted to determine if an individual could shift from mindless scripted behavior to a conscious awareness of information. Langer (1992), in a reflective essay, explained that she first observed this shift in an experiment she conducted to better understand the "illusion of control" phenomenon. Langer (1975) defined "illusion of control" as an expectancy of personal success probability that was inappropriately higher than the objective probability of success (i.e., thinking one will win the lottery even though the statistical odds are low) (Langer, 1975).

Langer (1975) hypothesized that factors from skill situations (e.g., competition, choice, familiarity, etc.) would increase the individual's confidence, which in turn would give the individual an illusion of control. In one study, lottery participants were or were not given a choice of a ticket while in another study lottery participants were or were not given a choice of familiar or unfamiliar tickets. The concept of choice or being allowed to pick one's own ticket based on previous information gave the participants an illusion of control. Conversely, the illusion of control seemed to decrease and participants' perceived probability of success (e.g., winning the lottery) returned to chance when they were asked to imagine how they would act in a chance determined context. Ultimately, Langer (1975) concluded that factors in skill situations did foster the illusion of control. Based on these findings, Langer (1992) wanted to know why people could imagine that they were in a different social context but when put in that same real social context were unable or unwilling to process or consider the same information. Langer (1975) concluded that people could act more mindfully under certain situations, while acting mindlessly or adhering to minimal structural cues unconsciously in other contexts.

Langer (1992) explained that the next step in her research was to determine if conscious awareness of information could be shifted to mindful consideration of structural clues in true learning situations as opposed to random social situations. Langer and Imber (1979) first examined the effects of overlearning as it applied to how people accessed information. The task involved translating a number of sentences into a coded format. The control group had no practice, the moderate group was required to translate two sentences, and the overlearning group translated six sentences. The findings in this study revealed that in the final translation the overlearning group significantly

outperformed the control group in speed and accuracy of the task. However, the control and overlearning groups could not recall as many of the steps of the coding process as the moderate learning group. Langer and Imber (1979) concluded that a conscious awareness of a task might prevent mindlessness because the individual is not mindlessly engaging in scripted behavior. In contrast, a lack of conscious access to the steps in the task was accompanied by the individual's increased vulnerability to mindless behavioral scripts.

The next major research in mindfulness involved the concept of "premature cognitive commitment." Chanowitz and Langer (1981) found that a single exposure to information without overlearning could leave that information inaccessible to conscious recall. In this study, participants were given information about a fictitious hearing disorder called chromosynthesis, for which they were going to be tested. The participants were given booklets about the disorder that stated that people could have chromosynthesis without knowing it. The goal of the study was to find out how people would recall information about the disorder if they learned it in a mindless manner. In the study, some groups were told they had the disorder (self-relevant group), while others were not (not self-relevant group). The results of this study indicated that participants in the not self-relevant group accepted the information less critically than the other group and performed significantly worse on a recall test about the disorder. The group that was not given reason to consider the information about the disease made a premature cognitive commitment that they did not have the disease and therefore did not need to listen to the information attentively. Langer (1992) later concluded:

The rigid single-mindedness that results from premature cognitive commitments is the same as that which results from mindless

overlearning. In both cases, the individual becomes insensitive to the context-dependent nature of behavior. In both cases the individual is oblivious to the novel subtleties in the target situation (p. 293).

The next step of mindful research involved a number of studies on conditional and unconditional learning. Langer (1989, 1997) described unconditional learning as accepting information that is presented in an absolute manner without considering other alternatives. Conditional learning involves considering information from various perspectives and contexts. Studies by Langer and Piper (1987) and Levy and Langer (1994) demonstrated that learning information in an unconditional manner resulted in mindlessness and premature cognitive commitments.

Langer and her colleagues devised numerous experiments that demonstrated the conditions in which mindfulness was promoted and enhanced. These studies showed that offering more choices, considering different perspectives, and providing alternative forms of instruction promoted mindfulness. Results in one study showed that after reading a text from different perspectives, individuals had greater recall of details in a story (Lieberman & Langer, 1995). In this study, high school students were asked to read a passage about the Kansas-Nebraska Act. Students in one group were asked to read the passage from their own perspective and from the perspective of the main character. The students in the other group were given no additional instructions other than to read the passage. At the end of the class the students took a test on the material and a week later took another test on the material. The group that read from more than one perspective outperformed the control group on recall of the information, improvement from the first to the second test, and creativity on essays.



Another study showed that children were more apt to be friends with a handicapped student after exploring different possibilities for handicapped individuals (Langer, Bashner, & Chanowitz, 1985). In this study, children were shown slides of people with disabilities and asked several questions about the people in the slides. The children were asked for one answer or several answers to each question. For example, the children were shown a slide of a woman who was deaf. The control group was asked to name one way in which this woman would be good at her job and one way she would be bad at her job. The other group was asked to name four ways she might be good or bad at her job. Next, the children were told that a child with a disability was coming to their school. They were asked if they wanted to attend a picnic with the child or have the child as a partner in various class activities. The children who were asked to provide a variety of answers in the earlier activity were less likely to avoid the new child and asked to work with the student more than the control group. These studies demonstrated that mindfulness can be induced in the short term, and explained the conditions in which mindfulness can flourish.

Langer's theory of mindfulness/mindlessness concerns the way we direct our attention toward certain things and not others. When we are mindful of something or someone, or learn in a conditional manner, we pay closer attention to details. In contrast, individuals who are mindless pay little attention to a task. This may be the result of unconditional learning or a premature cognitive commitment.

Langer (1992) stated that mindfulness should not be confused with the psychometric views of intelligence that are linear and move from problems to solutions and from questions to answers. The capacity to resolve problems as measured in terms of

cognitive speed has served as the standard definition of intelligence (Spearman, 1927; Eysenck, 1987; Jensen, 1982; Sternberg, 1980). Brown and Langer (1990) stated that mindfulness is purposefully not linear; it asserts that problems and resolutions should be viewed from several vantage points with several possible outcomes. Langer (1992) stated that mindfulness is a process in which an individual views one situation from several perspectives. Instead of moving in a linear fashion from question to answer, the mindful individual seeks out other vantage points to view the problem. This in turn may raise additional questions and scenarios.

Brown and Langer (1990) described four main distinctions between intelligence and mindfulness. First, intelligence requires the individual to correspond reality to one optimal fit between the individual and the environment, whereas mindful individuals identify several possible perspectives from which any situation can be viewed. Secondly, intelligence is a linear process that moves from problem to resolution as quickly as possible in order to achieve a specific desired outcome. In comparison, mindfulness is a process in which the individual steps back from the perceived problem and perceived solutions in order to view the situation in a new and novel way. Therefore, meaning is given to the outcomes through the process. Third, intelligence is developed from an expert's perspective that focuses on stable categories of information whereas mindfulness is developed from more of an actor's perspective. The mindful individual experiences personal control by changing perspectives and viewing information as unstable and shifting. Lastly, intelligence depends on the ability to remember facts and cognitive skills whereas mindfulness depends on the fluidity of knowledge and cognitive skills.

Brown and Langer (1990) showed that the major distinction between intelligence and mindfulness is the view of how the individual and environment interact. Intelligence is based on the belief that there must be an optimal fit between individual and environment. In comparison, mindfulness adheres to the idea that persons should not fit themselves to an external world. Instead, mindful individuals recognize that there are multiple processes in which meaning and value can be constructed. Mindfulness recognizes that how an individual constructs his or her world is only one construction among many. For example, the mindful individual recognizes that a person's experiences affect how an individual solves a problem and since every person has had different experiences there can be no one optimal fit in which an individual solves or answers a problem.

The *Langer Mindfulness Survey* (LMS; see Appendix A) was written to determine an individual's degree of mindfulness. It is a performance-based survey in which the individual describes patterns of behavior rather than actually exhibiting the behavior. Langer (2004) made a distinction between state and trait mindfulness. State mindfulness refers to an individual's behavior in a certain situation while trait mindfulness refers to the general ability to act mindfully. The LMS was developed to assess trait mindfulness in terms of four domains that are theoretically interrelated. These domains are novelty producing, novelty seeking, engagement, and flexibility. Langer (2004) described novelty producing as the propensity to develop new ideas and ways of looking at things. Novelty seeking measures the propensity to explore and engage novel stimuli. Langer (2004) stated that individuals who are novel tend to experience things from a variety of perspectives rather than from one perspective or situation. Novel students may be able to

think of various ways to use a hanger rather than just to hang clothes. Engagement refers to the propensity to become involved in a situation. An individual who scores high in engagement tends to notice the big picture. These individuals are able to understand on a deeper level, beyond mere memorization of facts. Flexibility refers to the ability to view a situation from multiple perspectives. When given a problem, these individuals can brainstorm many possible scenarios from many different perspectives. Langer (2004) explained that these domains describe a person's openness or willingness to engage in mindfulness. Mindfulness, then, is more similar to a cognitive style or disposition than to cognitive ability.

Sternberg (2000) described cognitive styles as preferred ways of using one's cognitive abilities. Styles are not abilities, but styles reflect how people use their cognitive abilities in everyday life. Cognitive styles can refer to thinking styles, learning styles, or teaching styles.

Carroll (1993) explained many examples of cognitive styles. One example of a cognitive style is *field independence versus field dependence*. This refers to the way individuals perceive things either independently of their backgrounds (field independence) versus dependently upon their backgrounds (field dependent). Another cognitive style is *scanning*. This refers to the extent to which one scans stimuli or information extensively versus intensively. This is similar to the cognitive skills of *breadth of categorizing* that is the individual's preference to look at information in broad inclusive categories as opposed to narrow exclusive categories. Other examples of cognitive styles include *cognitive complexity versus simplicity*. This is the extent to which one structures the world in a complex way versus a simple way. *Reflexivity versus*

*impulsivity* is another cognitive style described by Carroll. This refers to the extent to which one thinks carefully before one acts as opposed to acting impulsively.

Carroll (1993) also described the cognitive style of *leveling versus sharpening*. This refers to the extent to which one tends to blur similar memories (leveling) or to remember things as very distinct and as less similar than they actually are (sharpening). Still other styles include *constricted versus flexible control*, which is the extent to which one is susceptible to distraction and cognitive interference. The final cognitive style described by Carroll is *tolerance for incongruous or unrealistic experience*. This refers to the extent to which the individual is willing to accept perceptions that are in opposition to conventional expectations.

Mindfulness seems consistent with Sternberg's description of cognitive style. It is a preferred way to view the world and solve problems. Based on the abovementioned examples, Sternberg (2000) concluded that although mindfulness is not the same as any of the other cognitive styles, it does seem to follow the same framework. Therefore, it is more like a cognitive style or disposition than a way to quantify a cognitive ability. Mindfulness, like cognitive styles, is at the interface of cognition and personality. Mindfulness is a phenomenon that has no set definition; however, research shows that it is not the same thing as intelligence

Brown and Langer (1990) explained that both mindfulness and intelligence arise from a need to explain our relationship to our environment. At the heart of the concept of intelligence is the belief that it is possible to identify an optimal fit between the individual and the environment. Langer (2000) argued that mindfulness cannot totally be defined as

a cognitive style because, "...in our view, a style is not expected to change over time and through different circumstances, whereas the essence of mindfulness is change" (p. 3).

Langer (2000) compared mindfulness and other cognitive abilities in terms of whether something can be reduced to an algorithm to process information. Some views of intelligence are analogous to the image of a computer. Mental processes have been reduced to computational or algorithmic processes. Langer (2000) argued:

This reduction has recently been extended to explaining mental phenomena in terms of neurobiological processes taking place in the brain, which can themselves be represented in computational terms. An epistemological problem, however, is that these metaphorical devices cannot be transcended or refuted by empirical means because the organizing metaphors have never been explicitly made subject to empirical investigation. All that investigations based on the mind-as-computer metaphor can tell us is whether our problem-solving processes deviate from the normative precepts that make up the metaphor in question. Thus, we are not informed about the possibility of nonalgorithmic processes by which people come to solve the practical problems that cognitive scientists expect them to solve by algorithmic means. (p. 4)

The theory of mindfulness investigates these nonalgorithmic factors in problem solving. It is not an intellectual ability, but a state of mind in which one is sensitive to context and actively engaged in the present. It is a state in which people look for new distinctions and

notice new things. Mindfulness embraces the idea that there is power in uncertainty (Langer, 2000).

### Mindfulness in Education

Thus far, mindfulness has been examined in light of traditional views of intelligence and then defined by what it is and what it is not. The next step in this review is to discuss mindfulness as it relates to education. This will be accomplished by examining the three core teaching characteristics of mindful teachers described by Langer (1997). First, mindful teachers have an orientation that emphasizes process over the end product. Second, mindful teachers present information in conditional ways as opposed to absolute, unconditional ways. Lastly, mindful teachers consider multiple perspectives when teaching.

#### *Process Orientation*

Langer (1997) believed mindfulness is hampered by many educational practices now accepted as standard. One such practice is the emphasis on content over process or the outcomes-based orientation that is prevalent in many schools today. This orientation stems from the work of Ralph Tyler. Tyler (1949) believed that educational objectives were educational ends and should be achieved as a result of instruction and learning. Traditionally, the end product is the desired educational goal. Intelligence has been viewed in the same manner because it is seen to measure academic intelligence. Schlinger (2003) explained that academic intelligence enables an individual to do well on school-related tasks that can be assessed by traditional standardized intelligence tests. Langer (1997) described this view of intelligence as learning-to-learn skills. Intelligence is defined as the speed with which a person solves a problem from point A to point B.

According to this view, intelligence testing that focuses on problem resolution or the intelligence expert, not the individual taking the test, preselects skill acquisition.

An educational emphasis on content over process assumes there is a fixed resolution to all problems. Doll (1993) explained that this thinking assumes that there is a set end that is fixed before the implementation of the instruction. The learner's role is to receive information, store it, and then act on this information at the appropriate time. Because there is one particular content goal in mind, a learner may not be open to new information or view information from multiple perspectives, thus contributing to mindlessness (Langer, 1997).

Langer (1997) explained that much of education is hobbled by this outcome-based orientation that is analogous to a paint-by-numbers approach to teaching. Rather than allowing students the opportunity to generate new hypotheses that can be mindfully tested by the students' own experience, many teachers or experts assume that the objective is apparent and only the means of achieving the answer is obscure to the students. The teacher directs the student to the "correct" way to solve the problem. The mindful teacher, however, realizes that the student may have an entirely different hypothesis with an entirely different process based on the experiences of that student. These varied hypotheses, processes, and experiences lead to an end result, but not necessarily the same result as that of the teacher.

Langer (1997) contended that the ability to achieve a desired outcome as prescribed by another individual is very different from the ability to explore and understand experiences. Langer challenged teachers to rid themselves of the idea that the outcome is the desired product. Instead, she proposed that freedom to define the process



and explore possibilities is more significant than achieving a predetermined outcome that has no value or meaning to the individual outside of that particular experience and setting. The mindfulness theory does not have an outcome goal orientation, thus the individual is not limited to just one answer. Because there is no predictive outcome, the individual is free to be led to different, unexpected answers that are novel to the situation. This does not appear to mesh with current high-stakes testing in which students are asked for specific answers on standardized tests.

The phenomenon of mindfulness does not involve linear, sequential, and quantifiable thinking dispositions that lead to specific outcomes, but it does involve a more unpredictable matrix of thinking. Doll (1993) compared these two opposing thinking styles:

The linear, sequential, easily quantifiable ordering system dominating education today, one focusing on clear beginnings and definite endings, could give way to a more complex, pluralistic, unpredictable system or network. Such a complex network will, like life itself, always be in transition, in process. A network in process is a transformative network, continually emerging -- one moving beyond stability to tap the creative powers inherent in instability. (p. 3)

Doll described a view of thinking and learning that is consistent with mindfulness. This view of learning puts the emphasis on the transition and the action. The importance is on running the race, not on the specific course being run or how the runner finishes the race.

Demick (2000) argued that a process orientation can have positive effects on mental health. Mindful persons create new categories and create new possibilities. This awakening to new possibilities alters one's state of mind and influences the state of the

body. The mindful individual is not set on a sequential course with no hope of deviation. Demick (2000) stated, "...by virtue of mindful involvement in any process within one's larger life-span, one becomes less like a projectile propelled along a predetermined trajectory and more like a free flying bird" (p. 2).

Langer (1989) contends that a process orientation emphasizes, "How do I do it? Instead of "Can I do it?" and directs an individual's attention toward figuring out the steps needed to solve the problem. With this orientation, individuals tend to think in steps instead of concentrating on the end result. This focus helps students attack big projects because they think of what to do next rather than thinking of everything at once. Teachers can help students concentrate on process by demonstrating that a process or processes first precede an outcome and that some processes produce better results than others. Teachers can also provide students with the tools to plan and implement processes. This may convince students to pay attention to how things are accomplished rather than the end result.

According to the mindfulness theory, when an individual is told how to solve a problem or told that there is only one answer to a problem, the individual is being limited in his or her ability to test novel ideas. For example, many students are taught to find a common denominator before adding uncommon fractions. However, it is possible to add fractions with different denominators without first finding a common denominator by using visuals and manipulatives. A fifth grade student recently demonstrated a way to add unlike fractions using a clock. The student visually recognized that each five-minute interval equaled  $\frac{1}{12}$  of the hour. Likewise, 15 minutes equaled one-fourth of the time; 30 minutes equaled one-half of the time, etc. When given a problem like  $(\frac{1}{4} + \frac{1}{12} + \frac{1}{2} +$

1/6=) the student simply counted the intervals around the clock. When he went around the clock one time he knew that was one. The student was not limited to finding the “correct answer” in a certain way.

An emphasis on process over content requires different kinds of assessment from those used in traditional education. For example, a mindful teacher may teach a literacy lesson in which the students have to discuss the various themes from *Moby Dick*. The appropriate kind of test for this kind of instruction would not be a multiple-choice test asking for the right answer to the question. Instead, the mindful teacher might ask the student to explain how all the choices could be right. This puts the emphasis on the learning process, not on the answer.

### *Conditional Learning*

Langer and Piper (1987) explained that mindlessness is marked by the narrow and rigid use of information during which the individual is unaware of potential novel aspects of the information being given. According to this view, a mindless individual deals with information as though it had only a single definition and meaning. Langer contended that this results in a loss of attention to details. Mindful individuals on the other hand actively make distinctions and make differentiations between information. Langer (1987) argued that mindlessness is based on the past, whereas mindfulness is based on the present.

Research shows that there are many negative consequences of mindlessness. One such negative consequence is making premature cognitive commitments based on information presented in a single instance. Unconditional learning in which information is given from one perspective and in absolute language can induce premature cognitive commitments, which in turn promotes mindlessness. Langer and Piper (1987) described a

premature cognitive commitment as one that is unwittingly made to the meaning of information and its understood implications. Many times premature cognitive commitments are made when there is no obvious reason to consider carefully the information being given.

Chanowitz and Langer (1980) and Langer, Perlmutter, Chanowitz, and Rubin (1988) examined mindlessness that occurs from making premature cognitive commitments. In one study of premature cognitive commitment (Chanowitz & Langer, 1981), people were not given reasons to consider information about the symptoms of a disease that was described to them. The subjects accepted the information about the symptoms without question. When the information became relevant to them and they thought they had the disease, they began to believe they were vulnerable to the symptoms previously described. When given the information unconditionally the subjects accepted the information without question. Comparison subjects for whom the same disease information was mindfully processed did not display the symptoms. Chanowitz and Langer surmised that giving information in a conditional manner prevents premature cognitive commitments.

Langer (1997) contended that mindful individuals consider information in a conditional manner. This is contrary to the teaching of facts in an unconditional manner. Langer said, "In most educational settings, the facts of the world are presented as unconditional truths, when they might better be seen as probability statements that are true in some contexts but not in others" (p. 120). Langer (1997) argued that textbooks generally state contexts and conditions as though they were stable in all contexts.

Information that is published and thought to be unconditionally true is more likely to be accepted without critical thinking. This is an example of mindlessness.

Presenting information in a conditional manner, as is suggested by a theory of mindfulness, can cause anxiety, but it can also motivate students to consider new possibilities. Langer made a compelling case for the need for uncertainty instead of the stability offered in a traditional content before process model. According to Langer (1997) there is power in uncertainty because uncertainty gives us freedom to discover meaning and possibility. When given many meaningful choices there is uncertainty. However, if there is no choice, there is no uncertainty, and in turn no opportunity for the individual to have control.

Additionally, in mindfully considering information not as stable, but as a source of ambiguity, we are forced to be observant. However, this observation is not a tunnel vision view of information, but a view that is more analogous to soft vigilance. This soft vigilance that does not have a detailed point of view or answer is open to more information (Langer, 1997).

There have been numerous studies that corroborate Langer's contention that presenting information in a conditional manner had positive effects on student learning. Langer and Piper (1987) conducted three experiments to determine if presenting information in a conditional manner could prevent mindlessness. In each experiment, a different problem was presented to the subjects and a set of objects was introduced either in conditional ("This could be a....) or in absolute form ("This is a ....). The subjects were then asked to solve the problem using the objects introduced. The experiments showed that only those subjects who were presented the information in a conditional

manner thought to use the objects in creative ways. They remained mentally open to considering new ways to solve the problems using the “nontraditional” objects. Langer and Piper (1987) surmised that presenting information in a conditional way enabled mindfulness that fostered creativity and flexibility.

That study was corroborated through an experiment described by Langer (1997). The purpose of this study was to determine the effects mindful instruction would have on the acquisition of content and problem solving. In this study, two groups of high school students viewed a physics lesson and were told that a short quiz would follow. However, one group received additional instructions telling them to feel free to use additional methods to assist in solving the problems. On the direct tests of the material the two groups performed equally. However, the students who were given the mindful instructions and who acted in a mindful manner used previous knowledge and experience that required extrapolation and creativity to solve the problems. Langer argued that the group given the conditional instructions had the freedom to explore other possibilities. The conditional instructions were the catalyst for that freedom to explore other possibilities.

Other studies also demonstrated that mindfulness had positive effects on the acquisition of content. Brown and Walberg (1993) compared the test results of students who were given absolute/unconditional directions and those who were given conditional instructions that asked them to consider all questions and try their best. The students given the mindful/conditional instructions scored significantly higher than those who were given the test instructions in an absolute manner.

Langer, Hatem, Joss, and Howell (1998) conducted a study to test the effects of conditional learning. College students who had just completed a lesson on urban development wrote essays based on the evolution of a neighborhood. The essays were judged to be more creative when they were taught conditionally than when the lesson was taught using absolute language. In this same study, even younger students benefited from conditional instruction. Fourth grade students completed a lesson in poetry and were asked to write two poems. Poems that were taught with absolute language and a required rhyming scheme were less creative than the poems written by the students who were taught using conditional instruction with no rhyming scheme required.

Conditional learning that leaves the door open to multiple interpretations and possibilities seems to have both positive academic and mental effects on individuals. There does seem to be power in uncertainty.

#### *Considering Multiple Perspectives*

The ability to see multiple perspectives is another characteristic of mindfulness. Langer (1997) stated that mindful individuals recognize that there is no one perspective that can explain a situation. Because there is no one perspective from which to answer a question there is a wider range of possible answers. Individuals who are mindful take a second look at a situation and realize that their perceptions are based on who they are now and who they have been in the past. Mindful teachers give students the opportunity to view issues from multiple perspectives. For example, when discussing the war in Iraq, teachers and students should consider multiple perspectives. Mindful individuals consider the perspective of various contexts such as average Iraqi citizens, aid workers, U.S. government officials, and soldiers. Langer (1997) explained that mindfulness is likened

to an actor's ability to shift perspective depending on the role he or she plays. In contrast, we do not act mindfully when we depend on the "expert's perspective" instead of actively viewing the information ourselves.

Langer (1997) made the case that information must be presented in context and from the perspective of various individuals involved because texts or teachers that leave out points of view treat information as true regardless of the perspective. Langer (1997) explained that information given in closed packages and from one perspective is generally taken factually and these facts are memorized. When the goal is memorization, there is little reason to think about that information. When persons do not think about the information they do not take the time to open up the package. The package remains unopened and viewed from one perspective.

Langer (1997) contended that students should be taught to view information from an expert's perspective as opposed to an actor's perspective. An expert's authority is due to the fact that the expert can predict events or information more accurately than a non-expert. When experts make predictions, they generally rely on a collection of observations that are sorted by categories that are perceived to be stable over time. An actor's perspective relies on the individual person's experiences instead of the experts.

For example, my husband found out recently that he should have been promoted to Major years earlier but due to mistakes in calculating his military service he was not given the opportunity to go before the military promotion board. The experts advised my husband to just wait for his promotion. Experience of these experts showed that individuals who requested a special promotion board were not given promotion. However, my husband looked at the situation from an actor's perspective. He had



excellent evaluations and he had served the appropriate number of years for the promotion. He looked at this problem based on his own experiences, not the experiences of the experts. The end result is that he was given promotion despite the fact that a special board had to be convened to review his work. When an individual's experience differs from that of the experts we can follow our own decision or we can go with the expert's advice. Either one may have a good result or not. In turn, mindful teachers may tend to challenge students to look at multiple perspectives based on expert information and experience.

Langer (1997) explained that mindful instruction can be achieved in education by presenting information in novel ways and from different perspectives. Material can be introduced through games because in games players must vary their responses to fool their opponents or look more closely at all aspects of a situation. The players have to view the situation from more than one perspective. Likewise, teachers can vary the perspective in relation to the information. In sports this happens when we move around. By moving around a tennis or basketball court we can see that the stimulus is never quite the same. Teachers can do this too by presenting the information in many formats to include visual, auditory, and kinesthetic representations. We can also allow students to move physically in the classroom. Lastly, teachers can present information conditionally by having students look at one novel aspect of the information. For example, if teachers were teaching map skills to students they could have the student view the map from the perspective of an ant. How would the map differ? How would the scale differ? What objects would need to be identified on the key?

Additionally, Langer (1989) contended that facts should be communicated in a way that demonstrates various contexts. For example, the teacher could state, “The three main reasons for the Civil War were....” However, mindful teachers might say, “From the perspective of the white male living in the 20th century, the main reasons for the Civil War were....” The mindful questioning requires the student to give thoughtful comparisons.

It is expected that mindful teachers will demonstrate and cultivate mindfulness on many different levels. First, they will have a process orientation as opposed to an outcome-based orientation. Secondly, through ambiguity, they will present information in a conditional manner as opposed to an absolute manner. Lastly, mindful teachers will examine information from multiple perspectives.

For generations, individuals have decried mindlessness in schools. Ritchhart (2002) and Schlinger (2003) have stated that since the 20<sup>th</sup> century, intelligence has been conceptualized from a psychometric perspective that measures intelligence with predicted outcomes. Langer (1997) contends that what is needed in education is mindful teachers who promote the following: (a) transfer of learning and knowledge to new contexts, (b) the ability to think creatively and critically, and (c) the development of more self-directed learners. To that end, this literature review examined the following: (a) theories of intelligence including and beyond the psychometric perspective, (b) the theory of mindfulness and how it aligns with other view of intelligence, and (c) mindfulness in education.

## CHAPTER 3

### METHODS AND PROCEDURES

Much of education is concerned with completing end-of-the-year exams and acquiring knowledge and skills. Teachers are asked to teach according to state-mandated standards using curricular frameworks from scripted textbooks. But, what if education were more concerned with process than content? What if students were encouraged to think about information from various perspectives? What if students were presented with information in a conditional manner? Langer (1997) described mindful teachers as individuals who are concerned with these issues. Previous research showed the conditions in which mindfulness is promoted, but there is not a clear picture of a mindful teacher. The purpose of this research was to create an image of mindfulness so that educators can determine if mindfulness is a phenomenon that should be fostered and encouraged in teachers.

The following question was addressed in this research: What does it mean to be a mindful teacher? This research examined what it means to be a mindful teacher by exploring the characteristics that a mindful teacher displays via longitudinal case studies.

#### Participants

The subjects in this study were three elementary teachers in an intermediate school in upstate New York. All three participants were in the same elementary building. I, the researcher, sought recommendations from local school administrators, teachers, curriculum coordinators, and school superintendents for names of teachers I could contact regarding this study. Specifically, I asked them to recommend teachers who are novel in their teaching and present content from various perspectives. Four teachers were

recommended by administrators. Three of the four candidates were in the same building so these three candidates were considered for the study. The *Langer Mindfulness Scale* (see Appendix A) was administered to these candidates in order to confirm that the teachers were mindful as measured by the scale.

### Design

I used qualitative longitudinal case studies as the research design. I chose case studies as a form of inquiry because I believed it would allow for the greatest understanding of mindfulness in teaching. Stake (1998) explained that the main researcher spending a substantial amount of time on the research site, having personal contact with operations of the case, and reflecting on what is going on at the research site characterizes qualitative longitudinal case studies. Stake (1998) and Yin (1989) stated that case studies are used to investigate a contemporary phenomenon within its real-life context or provide refinement of a theory. In the case of this research, the contemporary phenomenon was a classroom teacher who is mindful. Longitudinal case studies were used because they can satisfy the three tenets of the qualitative method: describing, understanding, and explaining.

Merriam (1998) explained that qualitative case studies are particularistic, descriptive, and heuristic. Particularistic means that the researcher focuses on a particular phenomenon. Secondly, they are descriptive because they describe the phenomenon with rich and thick descriptions. Lastly, case studies are heuristic in that they help the researcher better understand the phenomenon under study. According to Merriam (1998), case studies can, "...bring about the discovery of new meaning, extend the reader's experience, or confirm what is known" (p. 29-30). This research included these three

components. I focused on mindfulness in teaching, described the data in thick descriptions, and used this information to develop a better understanding of mindfulness in teaching.

Observations, conferences and interviews with participants, and an analysis of classroom documents were used to collect data. These three data collection strategies allowed me to triangulate the data, which helped to reduce the likelihood of misinterpretations. Stake (1998) stated that triangulation is a process of using multiple perceptions to clarify meaning because it uses different ways to study the phenomenon.

#### Instrumentation

The data on mindfulness were collected using *Langer's Mindfulness Scale* (see Appendix A). Langer (2004) stated that the LMS was developed to assess trait mindfulness in terms of four domains, which are theoretically interrelated. These domains include: (a) novelty producing, (b) novelty seeking, (c) flexibility, and (d) engagement. Langer's Mindfulness Scale consists of 21 questions on a 7-point Likert scale. Participants are asked to rate the extent to which they agree or disagree with the statements. To score the LMS, a numerical value is assigned to each rating from "strongly disagree" (1) to "strongly agree" (7). There is a total score for the test that measures the individual's degree of mindfulness as well as sub scores for the following domains: (a) novelty producing, (b) novelty seeking, (c) engagement, and (d) flexibility. These four domains are specific characteristics of mindful individuals.

Langer (2004) reported the following related to test-retest reliability:

The LMS was administered to a sample of 111 college students, and 109 were retested 4 weeks later. The 4-week test-retest reliability for the total

score was  $r=.82$ . A different group of 68 students completed the LMS twice at 6-month intervals,  $r=.74$ . These findings suggest that the LMS has an adequate degree of test-retest reliability. (p. 10)

Langer (2004) reported that the authors assessed the internal consistency of the LMS by administering the scale to 129 students. Langer (2004) stated:

The Cronbach's alpha coefficient of internal reliability was .87, indicating a satisfactory to high degree of internal consistency. In a different sample of 111 college students, Cronbach's alpha coefficient was .83. These results provided evidence for the internal reliability of the LMS. (p. 9)

Langer (2004) reported that the authors of the LMS conducted a confirmatory factor analysis to test the hypothesis that mindfulness was a single dominant factor, and then conducted a second order confirmatory factor analysis to evaluate the four domains of the LMS. The participants were 952 people who had participated in one of eight studies on the LMS. Covariance matrices for the 21 items on the LMS were calculated for each of the eight studies.

Langer (2004) reported that a single-factor confirmatory factor analysis was constructed to verify that the 21 items maintained homogeneity. The standardized factor loadings for each item varied from .28 to .69. These results indicated that the LMS measures a single dominant factor and justifies the use of one score from the 21-item LMS.

### Procedures

Local school administrators, teachers, curriculum supervisors, and superintendents were contacted and asked to recommend potential candidates. These

potential participants were given a letter of consent (see Appendix B) asking for permission to administer the *Langer Mindfulness Scale*. Those who agreed to participate were given the *Langer Mindfulness Scale* (see Appendix B) to confirm that the teachers were mindful. Each participant was assured that the information would be confidential. The LMS is a 21-question survey based on a 7-point Likert scale. Initial norms were calculated from six college student samples, comprising 812 people. The mean for the community sample was 108 with a standard deviation of 13. The mean for the college student sample was 108 with a standard deviation of 14. For the purposes of this study, individuals were considered mindful if they scored at least one standard deviation above the college sample mean. Therefore, I determined that the participants should score at least a 121 on the *Langer Mindfulness Scale* to be considered as participants in the case studies. Other considerations for determining participants included the availability and accessibility of the teachers. Three participants were identified as being mindful based on these criteria.

The three participants were then asked to participate in case studies for 3 months beginning in January and concluding in March. Six observations were conducted for each participant. A non-participant observational method was utilized in which I remained as unobtrusive as possible.

During the observations, field notes were taken. Marshall and Rossman (1999) stated, "Observation entails the systematic noting and recording of events, behaviors, and artifacts (objects) in the social setting chosen for study" (p. 107). Shank (2002) stated that field notes are needed because they reveal the researcher's impressions about the observations. Tape recorders can capture specific words but not thoughts. Therefore,

tapes and transcripts did not replace field notes, but supported them. The field notes consisted of detailed, concrete descriptions of what had been observed. They were written in a notebook with two columns. The left column was used to record observations by making notes, drawing maps, etc., and the right column was used to write my preliminary impressions of the observations.

Conferences and interviews were also used to collect data. Conferences were more informal than interviews and were used to give participants the opportunity to talk about the observations in which they participated. Depending on the availability of the participants, conferences were held with each teacher after the observations. The purpose of these conferences was to ask clarifying questions regarding what happened during the observations. One structured interview with each participant was also used to collect data. Leedy and Ormond (2005) stated that interviews in qualitative research should consist of open-ended or semi structured questions. Leedy and Ormrod (2005) suggested that the researcher ask questions related to any of the following: (a) facts about the participant, (b) participant's beliefs and perspectives about the facts, (c) feelings, (d) motives, (e) present and past behavior, (f) standards for behavior, and (g) conscious reasons for actions or feelings. These basic guidelines were used when conducting the interviews.

There was also a content analysis of classroom handouts, assignments, homework, letters, etc. that supplemented the observations and interviews. Marshall and Rossman (1999) stated that, "...the review of documents is an unobtrusive method, rich in portraying the values and beliefs of participants in the setting" (p. 116). The review of documents took place the same time as the observations.



## Data Analysis

Leedy and Ormond (2005) explained four major spiral steps in data analysis of qualitative research. The current research went through these steps several times. The first step involved organizing the data. I organized my data using a computer database. A typist transcribed tape recordings of field notes, conferences, and interviews. Individual data based folders were set up for each participant and then more specific folders were set up for specific transcribed observations, conferences, and interviews. The second step involved reviewing all the data several times to get a sense of what the data contained as a whole. After each observation, I read the data and wrote down possible preliminary interpretations. The third step involved grouping the data in categories or themes. Throughout the observations, interviews, and document analysis I considered any recurring patterns, relationships, and themes that emerged. Shank (2002) stated the following regarding the development of themes in qualitative research:

Themes do not really emerge from the data. What emerges, after much hard work and creative thought, is awareness in the mind of the researcher that there are patterns of order that seem to cut across various aspects of the data. When these patterns become organized, and when they characterize different segments of data, then we call them themes. (p. 129)

I then coded the data according to the themes that developed. Marshall and Rossman (1999) explained that as the researcher codes data, new understandings may emerge that could necessitate a change in the original plan of research.

After the data had been collected and patterns had been established and coded, the data were integrated and summarized. Propositions were made that described the themes and the data were then organized in written text (Leedy & Orman, 2005).

I also tested the emergent understandings or themes. Marshall and Rossman (1999) stated that, "This entails a search through the data during which the researcher challenges the understandings, searches for negative instances of the patterns, and incorporates these into larger constructs, as necessary" (p. 157). The purpose is to evaluate the data for its usefulness and centrality. I determined how useful the data were in answering my primary question, which is: "What does it mean to be a mindful teacher?" Additionally, Marshall and Rossman (1999) suggested that these same themes should also be challenged. Therefore, in the analysis of data, I searched for other plausible explanations for the data and the linkages among them and then demonstrated how the explanation offered is the most reasonable.

The last steps in the analysis of data were writing the report. The report included a cross-case analysis of all three case studies in which I analyzed common themes among the three cases. Pseudonyms were used for the names of the three participants in the case study and for the identification of the school.

In order to increase reliability, I had a debriefing meeting with each teacher to discuss the themes that emerged and their interpretations. Additionally, after the entire summary was written, each participant was given a copy of the manuscript for review and was asked to elaborate on their perspectives of the events that occurred. Denzin (1978) describes this process as promoting inter-rater reliability.

## CHAPTER 4

### RESULTS

#### Introduction of Case Study Participants

The subjects in this study were three elementary teachers in an intermediate school in upstate New York. All three participants were in the same elementary building. I, the researcher, sought recommendations from local school administrators, teachers, curriculum coordinators, and school superintendents for names of teachers I could contact regarding this study. Specifically, I asked them to recommend teachers who are novel in their teaching and who present content from various perspectives. Four potential candidates were considered. Three of the four candidates were in the same building so those individuals were considered for the study. These candidates were given the *Langer Mindfulness Scale* (see Appendix A) in order to confirm that the teachers were mindful as measured by the scale.

#### *Description of Field Site*

Eastside Intermediate School is located in a city in upstate New York. Eastside houses approximately 1,009 students in grades four through six. There are approximately 10 regular education teachers for each grade level. Approximately 56% of the students at Eastside qualify for free or reduced lunches. This is significantly above the state average of 27%. Also, 18% of the students at Eastside have Individual Evaluation Plans (IEPs); this is also above the state average of 15%. Last year only 58% of the students passed the state English and Language Arts tests compared to the state average of 70%. In the area of math, 80% of the students passed the state math test compared to the state average of 85%. Due to the expansion of Fort Drum military base, the school is experiencing an

influx of students from all over the country that has resulted in a more diverse and mobile population. Currently, 78% of the students at Eastside are White, 13% are Black, 6% are Hispanic, 2% are Asian, and 1% are American Indian. Eastside is now labeled as a “needs improvement” school and is implementing many curricular and instructional changes because of the No Child Left Behind mandate. The three participants in this study all teach at Eastside Intermediate School.

*Paula*

*Path to teaching.*

Paula is a fifth grade teacher at Eastside Intermediate School. This is Paula’s seventh year as a teacher. She has taught all 7 years at Eastside. Before teaching Paula was a paralegal and a stay-at-home mom with her three children. When her youngest child went to kindergarten, Paula went back to college to pursue a Master of Science in Teaching at the State University of New York at Potsdam. Paula credits her involvement in her children’s education for her initial interest in teaching,

When my youngest went to kindergarten, I was lucky enough that he was in a district where teachers welcomed parent involvement. Therefore, I spent a couple of years volunteering in his kindergarten and first grade classroom, and bounced around to many different rooms. I got to be pretty close with some of the teachers and they would let me come in and just hang around out in a corner and watch. I got a good picture of what, at that point, I thought made a good teacher and that made a not-so good teacher, and it dawned on me slowly that, you know what, I could do this!

*Class composition and structure.*

Paula's class is comprised of 23 students, three of whom have IEPs and four of whom have Academic Intervention Plans. Academic Intervention Plans (AIPs) supplement the regular curriculum to assist students in meeting state standards. Paula teaches math, science, and language arts for her class and the fifth grade class next to her. Her partner teacher teaches reading and social studies to Paula's students so there is constant interaction between the two rooms.

*Physical description of classroom.*

Paula's classroom does not have four walls that isolate her from other teachers. Instead, there is an open classroom format. Eastside first developed this open format in the 1970s when the open classroom concept was widely accepted. Since there are only three walls in the classroom, the students can clearly see other classrooms and teachers. There is constant background noise from other classes as teachers and students engage in different activities throughout the day. Specialist teachers enter and leave the classroom with little fanfare. The students and staff seem comfortable with the busy and interactive atmosphere.

The student desks are grouped in triads that face the front of the classroom. In the rear of the classroom there is a row of six computers; on two walls there are shelves of books that cover both walls, and in the front of the classroom, there is a large dry erase board and Paula's desk. Entering the classroom one notices that books, arranged according to genre, are all around the classroom. There are fiction, nonfiction, classical, and the current popular books. Paula's desk is located in the front of the classroom but you rarely see her seated there. Next to her desk are bookshelves with teacher resources and various manipulatives used in math.

*Initial impression of classroom.*

My initial impression of the classroom is that Paula emphasizes student responsibility and character building. The only two rules posted in the classroom are “Be responsible” and “Be respectful”. Listed below the rules are the consequences, which are: (a) responsibility check sheet, (b) loss of privilege, and (c) letter home to parents. Also on the bulletin board are examples of how students have acted responsibly. Additional posters support the idea of being responsible: “Your actions. Your responsibility”, and “Be Yourself: An Original”.

It appears that problem solving is also emphasized in the classroom. There is a large banner across one wall that reads, “Wanted Inquiring Minds”. Paula noted that she is very concerned about students being problem solvers.

I’d like my students to know that they are all problem solvers; they can figure things out on their own, which is actually a skill I think most kids bring with them and I hope not to quash. I want them to realize that there are lots of different ways to problem solve, and there’s not one way that’s better than another, and to hopefully create a kid that is eager to do that, to keep looking for ways to solve problems.

*Personality characteristic.*

Paula is a very energetic person who seems genuinely excited about teaching. During my observations, the students were generally engaged in the learning process, but not anxious. The classroom has a relaxed feel. You almost get the sense that the students are at home. Paula noted, “You know what? If you can’t enjoy your time on this earth and be productive at the same time, what is the point?”

*Wilma*

*Path to teaching.*

Wilma teaches fifth grade at Eastside Intermediate School. This is Wilma's eighth year of teaching. She has taught all 8 years at Eastside. Wilma began teaching as a second career. Before teaching, Wilma was a stay-at-home mom with her two sons. She received her Associate's Degree from Jefferson Community College and her Bachelor's Degree from the State University of New York at Potsdam. She also received a MSED from SUNY Potsdam in General Professional Studies. Wilma credits her initial interest in teaching to her son Michael:

The biggest reason I went into teaching is because of my oldest son. He has cerebral palsy and I sat on the CSCC committee as a parent representative for most of his elementary years. That is when I decided that I wanted to be the teacher on the other side of the table and make parents feel a little more comfortable, especially when they have a child with special needs. So it was a result of working with Michael in the educational system.

*Class composition and structure.*

Wilma's classroom consists of 24 students, many of whom have IEPs. Wilma teaches with another regular education teacher and special education teacher. The three teachers have 48 students, 24 of whom have IEPs. Besides those 24 students, many students do not qualify for IEPs but do have AIPs. The three teachers work together as a team to meet the educational needs of all the students. Wilma and her partner regular education teacher trade classes for science and social studies. Wilma teaches social studies to both groups of students.

*Physical description of classroom.*

Wilma's classroom has only two walls. One wall has a row of computers and the other wall has a dry erase board and a couple of small tables in the front of the room that are used for small group instruction. The other sides of the classroom are open and allow Wilma's students to see other classrooms and teachers clearly throughout the day. The desks are arranged in a horseshoe shape with Wilma's desk in the front of the classroom.

*Initial impression of classroom.*

My initial impression of the classroom was that it was very peaceful and comforting. Wilma has a "motherly" characteristic about her that seems to relax her students. There are no rules or consequences posted in the classroom. This initially surprised me as I was taught that rules and consequences had to be posted in the classroom for students to see. However, it is remarkable how responsible Wilma's students act in the classroom and how well they get along. Wilma commented on her philosophy of discipline:

I guess my expectation is that I am in charge of the classroom, but I'm willing to listen to ideas and I wouldn't ask them to do anything outrageous or that they could not do. I'm big on if someone is having an issue they need to go away and have a walk. I explain to the students that I am working with teachers that I don't know well. I didn't grow up with them. Our ages are different, but when we all come here we work together because we have a job to do. I tell my students that if I can behave in school, they can too. When I walk in the school, I expect them to behave and they do.



This expectation is met by the students, who seem to go about their day and make good choices without being given many directions or directives.

*Personality characteristic.*

Wilma is a very nurturing teacher who has a calm disposition that seems to affect her students positively. She speaks gently, but firmly, and seems to easily obtain the attention of her students. There is a sense of community in the classroom that seems to stem from an emphasis on caring. Wilma is the type of person you would like for your own child to have as a teacher.

*Annette*

*Path to teaching.*

Annette is a sixth grade teacher at Eastside Intermediate School. Annette explained that she had many different experiences prior to teaching. Annette began teaching at the age of 29. This is her 16<sup>th</sup> year as a teacher. She has taught all 16 years at Eastside.

I graduated in high school when I was 16. My parents wanted me to attend a community college, and I was unhappy, dropped out a month after my 17<sup>th</sup> birthday. So, I was a college dropout at 17 and for years, several years, just enjoyed life. I traveled, you know, just did all sorts of different entry level minimum wage jobs, but really had a very interesting and fun life, traveled through Canada, traveled through the United States, and then when I met my husband he made me go back to school. So I came to a classroom with a very different attitude, I think, about education than many other teachers who perhaps

go straight through school and straight through college. I realized that you can educate yourself and you should educate yourself throughout life.

*Class composition and structure.*

Ann teaches 28 students who have been identified as gifted. Despite the similar characteristic of obtaining high standardized tests scores, Annette explained that the students are very different in interests and learning strengths. The physical makeup of the classroom is also very diverse. Annette teaches all subject areas except for specials like music, art, physical education, and Spanish.

*Physical description of classroom*

Annette's classroom has two portable walls and two walls that are made using bookcases. The desks are arranged in a horseshoe arrangement with Annette's desk in the front. The back of the room has about 10 computers and the all the other walls are literally covered with books. This room is extremely busy with books, student work, projects, etc. One wall has bulletin boards created by the students that depict life in ancient Greece and Egypt. Next to that there are original stories the student have written about myths. There is a large banner that reads, "Inquiring Minds Wanted". In the front of the room, there are numerous maps. Annette has a large desk that is full of books. Her room is a picture of organized chaos.

*Initial impression of classroom.*

My initial impression of the classroom is that literacy is a priority. The first thing you notice when you arrive in Annette's room is the large number of books that cover every inch of the classroom. There are books of every genre and interest that one can imagine. It is evident that literacy is a primary focus in this classroom. This is apparent

because the students and Annette are constantly engaged in reading, writing about reading, and discussing what they have read. Annette expressed that her emphasis on books goes beyond reading. “It’s not just books that are important to me; it’s the whole fact of life in the imagination.”

*Personality characteristic.*

It only takes a few minutes to realize why Annette’s students love being in her classroom. Her excitement for learning is contagious and seems to motivate her students. Annette loves to share ideas with other teachers and her students. Her love for reading and books is apparent not only by the large number of books in her classroom, but also by her ability to discuss nearly any book of any genre. One leaves Annette’s room wanting to research, explore, and become engaged in learning.

Process Before Content Orientation

During observations, all three teachers demonstrated their desire to see kids actively engaged in the learning process for the sake of learning and not for the sake of obtaining a particular correct answer. The teachers stressed the fun of learning and the importance of making connections with other subject areas and life in general. The two major categories of behavior that demonstrated a process orientation were (a) the emphasis on multiple answers as well as multiple paths to determine an answer and (b) an emphasis on the fun of learning.

*Multiple Answers or Multiple Paths to an Answer*

The theme of a process orientation, as opposed to a response orientation that focuses on obtaining the correct answer was observed on numerous occasions. In one particular lesson taught by Annette the students were given the following problem:

You are a member of a space crew originally scheduled to rendezvous with a mother ship on the lighted surface of the moon. Due to mechanical difficulties, your ship was forced to land at a spot some 200 miles from the rendezvous point. During the landing, much of the equipment aboard was damaged, and since survival depends on reaching the mother ship, the most critical items available must be chosen for the 200-mile trip. Your task is to rank the items in order of importance to your crew.

The students worked in groups to rank order the items. Throughout the activity, Annette walked around the room to monitor the students and to listen to their reasoning. The students had to justify their responses and Annette consistently emphasized that the ability to justify the response and explain one's thinking was the goal. After about one hour of working, each group read their ranking of items and explained their thinking. Annette did not comment or judge the correctness of the groups' answers but instead commented on each group's ability to work together and explain their thinking.

At the conclusion of the presentation, Annette read the actual answers from NASA. However, she commented, "Here is NASA's reasoning. Are we saying that NASA's reasoning is the only right way? No, but NASA has been to the moon; they may have more information and experience about the moon than we do." Because the answers were presented at the end of the lesson, they did not become the focal point. Instead, the goal of the lesson was the process in which the students engaged to justify their answers.

In another lesson taught by Annette, the students had to determine various nonstandard shapes. Annette told the students the answers to the problems and then had

the students figure out various ways to solve the problems. Telling the students the answers encouraged an emphasis on the process, not on the response. Various students then came to the overhead and demonstrated different ways to solve the same problem. Annette commented, “Remember there are different paths to work out a problem.”

This same process orientation was observed in Wilma’s classroom. During one observation, Wilma was working with a student who was having difficulty getting started on a writing assignment. The student’s task was to write a literacy letter to Wilma in which he summarized what he read in the first paragraph and then responded to the literature in some meaningful way in the second paragraph. The student was frustrated because he was having trouble with the handwriting. Wilma stated, “Don’t worry about your handwriting or spelling now. You are too caught up on being perfect. I’m not looking for perfection.” In this particular example, Wilma encouraged the student in the writing process, not on copying a specific format. This encouragement seemed to motivate the student to complete the task. Many teachers show students examples of writing that the teacher views as appropriate and good. The student then sees this example as the end product and tries to make a product that is similar. If, however, the student believes the example is impossible to achieve, he or she may quit. In contrast, Wilma did not show an end product for this writing assignment, but engaged the student in a conversation in which the emphasis was on the student being able to explain his understanding of the material he read, not on neatness and correctness of spelling. This seemed to free the student to write because he knew the expectation was not a perfect paper.

Paula demonstrated this process orientation too. During one observation, the students were given the following problem: Seven friends have 182 video games. What is the average number of games owned by each person? Paula first asked the students to set up the problem. One student asked Paula if she had correctly set up the problem. Paula responded, “Yes, that is one way, but you don’t have to do it that way.”

In all three examples, the emphasis was on the learning process, not on the response. Students were encouraged to think of multiple ways to solve a problem. During one interview, Wilma explained that the ability to think in many different ways takes energy and effort:

The students should let their brains think around a problem and not just go in one direction. You have to be able to think of it at a different angle. Almost like when you get up and walk around a room. If the problem was in the center of the room, they (students) would need to get up and look at the problem from different angles.

All three mindful teachers consistently demonstrated this ability to look at a problem from many different perspectives. They also challenged their students to find more than one way to solve a problem even when their textbooks or standard curriculum might only show one particular linear route.

Paula explained that the district’s curriculum could be very rigid in calling for specific answers. She explained that many teachers tend to lean toward assessing students with worksheets that assess more knowledge level and specific information instead of understanding. During one interview, Paula elaborated on this issue:

Interesting thing happened yesterday. One of those “worksheet” teachers came to me with an assessment, a chapter assessment, that she had given her kids in science, and she wanted me to read an answer that a student had written to a short-answer question. And what did I think; did I think the kid has answered the question, should they get full credit or partial credit? And the kid was right on, absolutely knew the concept, and explained it pretty well. This teacher said that she wanted the student to say certain words, and I said, do they understand what the question is. Well, yeah. Well, okay. There you go.

For the teachers in this study, the path to an answer was not generally presented in a linear orientation but instead, students were encouraged to think of many different ways to solve a problem. The teachers generally did not use contrived problems from a textbook that had a specific linear process, but instead tried to get the students to see the real life applicability and connectedness in problems. Paula commented on the use of games and how it helped students to connect problem solving with real life mathematical problems.

Those games are forcing kids to dig deeper and to see how things connect to each other, you know, in math specifically, but I’m even able to spill it over into other areas. I had a kid come to me the other day and say, she’s a gymnastics kid, she’s in tournaments all the time. She said, gee, I got a 6.2 at a meet and you know what, I actually understand what that .2 means now. And I’m thinking, you know, that’s the kind of stuff I’m looking for.

Annette echoed Paula's belief that the process of learning should be connected to real life experiences. Real life experiences are not contrived textbook problems that follow a linear process. Instead, real life problems are connected to various subject areas.

I think that learning is a lifelong, enjoyable, satisfactory process, that learning is a job, and that it's not something that's discrete and blocked off and segmented, but that it involves everything, and that everything is connected, you know, integrating as much as possible. We were studying ancient Greece and ancient Greek mythology, and then they'll come in and say I saw a commercial, saw Atlas holding up the earth. I just love to see that envelope just opening and all those different layers, all those different connections.

### *Process is Fun*

It was apparent that a process orientation was also emphasized because it was fun and enjoyable. The process of learning the information, rather than getting the correct response, became the fun part of learning. This was most notably observed in the area of reading by students who appeared excited about reading and talking about what they read. Frequently, Wilma challenged her students to enjoy reading and not get muddled down with a worksheet to assess comprehension. During one reading assignment, she told her class, "Let's read at least one chapter today and then we will meet to discuss some things about this book. Go and read. Have fun." The students read books of their choice in small groups and then met with Wilma to discuss what they had read. Comprehension was checked orally during the literacy discussion groups and through letters written to Wilma in which each student responded to what they read. Wilma wrote back to the students and a written conversation took place between Wilma and each



student. Wilma commented about the success of the literacy circles, “The students are really enjoying the literacy circles. They are enjoying reading and aren’t getting bogged down with worksheets and assignments. They can let their reading flow.”

This idea that the process of learning is fun was also observed in Annette’s classroom. During one observation, Annette reminded her students about a special event called *Read a Book in a Day*. For one day each grading quarter, the students are all given the opportunity to read one book for the whole day. I was amazed how excited the students were at the prospect of getting to read all day. The reading became fun and as a result, the process of learning literacy developed easily. Annette explained this event in detail:

I started *Book in a Day* years ago when I wanted everyone in the class to have the same experience. This was before I taught the academically gifted students. We all experienced the same book, either by reading independently, or by listening as I read aloud, or by listening to books on tape/CD. For struggling readers, it was a great experience, because in one day they could actually know what good readers know -- how the book ends! I had always hated the lockstep, read only chapter 2 tonight method of reading instruction myself. This was one of my ways of differentiating instruction. To be able to discuss the books we'd experienced together and pull in all that background knowledge helped in every subject area.

I chose shorter books with high interest levels, such as *The Cay*, or *Out of the Dust*, so that we could finish in one day, even the day we had four fire drills! Now I alternate each month -- one month we do the same book, and

students can read on their own or listen. The next month they can read any book they choose. The only rule I have is no graphic novels, joke books or the like.

It's not unusual for kids to read two or even three books some days.

It was observed that during free reading events like *Book in a Day* there were no formal teaching activities. Instead, the students engaged in book shares in which they talked with their classmates about what they read. This was the case in all three classrooms. Reading was viewed as a fun event because there was no worksheet assigned to the task. Reading was the reward. This particular example also demonstrates how the teachers made the learning activities applicable to real life. Most adults in real life do not use comprehension worksheets. Instead, discussions, debates, and conversations are shared among individuals who have read the same book.

Other examples of making the process of learning fun were observed. Paula used games in mathematics to teach students the importance of mathematical processing and to add an element of fun to mathematics. Paula commented that using games was a conscious decision on her part because they help develop understanding of mathematical concepts. For example, during one observation, the students played a game called the *Polygon Capture Game*. The students were given two sets of cards. One set had a description of an angle on it and the other card had a particular shape drawn on it. For example, one card had written on it, "At least one angle is a right angle." The students had to find the shape that fit the criteria on the card. There was no particular answer key to this game because there could be many different answers depending on the descriptions. So instead of using an answer key, the students were told to talk about the answers to determine if the answer was correct. The students engaged in discussions and

questioning during which they had to explain why their answer was correct and why the opponent's answer was not correct. As I observed these students, I could tell that they understood the concepts. They had not merely memorized definitions for the various shapes but they were also able to explain their thinking. The game format added a fun component that intrinsically motivated the students. This particular example also exemplifies the previous theme of an emphasis on process. This leads one to consider if the process orientation was the key factor in making the game fun, or if a game that emphasized a specific response could be just as fun?

The process orientation that was observed in all three classrooms was very refreshing for me because I was able to see that learning became a fun journey that never ended for the students. Learning was not a linear process that was broken into discrete subjects. Instead, learning was viewed as a way of making connections with everyday life events and other subject matter. There were two major ways the teachers stressed a process orientation. First, there was an emphasis on multiple paths to determine an answer as well as an emphasis on the fact that there may be more than one answer to a problem. Secondly, the process of solving a problem was viewed as fun and rewarding. The learning became the fun!

#### Giving Choices

The practice of giving students choices in academic and social areas was evident in the practices of all three teachers. From an instructional standpoint, the teachers had the same objective for all their students but they allowed various means to get to that objective by giving students choices in the content they could read and the way they completed classroom work.

*Choices in Learning Tasks*

Wilma gave her students a choice of possible books they could read for literacy groups. She placed students in groups based on their reading level. Each group went to the library and picked about four or five titles they thought might be interesting. Wilma then displayed all the books for each group and gave them the chance to decide what book the group would like to read. Each group then met with Wilma to discuss the book and review various reading skills that were pertinent to the fifth grade curriculum. After each meeting, Wilma asked the students to decide how they would respond to the book by giving them a list of possible response options. Each student was able to choose his or her response task instead of having it assigned by Wilma.

Each student was required to write one literacy letter to Wilma every week regarding the book he or she was reading. In this letter, students first summarized the book and then chose a particular writing topic. Generally, Wilma allowed the students to pick any topic, however, she did challenge students to consider other options when they continually wrote about the same topic each week. Wilma commented about this practice:

I think they (students) start and become more independent learners especially in the area of reading when they have choices. One of the kids yesterday had only read fantasy, but I challenged him to branch out in his reading. So he read a book about the Holocaust and I never knew this but he lived in Germany and really loved the book. It is opening new doors for him. The students don't have to stay stagnant in one area. I tell them that literature is a free vacation. It is a trip that doesn't cost anything.

Paula and Annette also gave their students choices for academic tasks. For example, both teachers had research projects. Paula's class was researching famous African Americans and Annette's class was researching topics related to ancient Egypt. In both cases, the students picked their topic or person to research. They were not assigned a research topic.

Letting students decide how they wanted to complete instructional tasks was also observed on numerous occasions. For example, Annette's class wrote poems about the subject of peace. Annette explained the assignment as follows:

You can have peace in the world, in your heart, in your life. You can have peace through music. How about in athletics? Does a game well played give you peace? Remember facts about poems? Do they have to rhyme? No, you are only limited by your own imagination. The only thing you have to remember is that the poem must be about peace.

Later that morning I observed the students as they composed their poems in the computer lab. I was amazed at how quickly the students wrote their poems. I was also amazed at the various kinds of poems that were written. Some students wrote poems in a traditional format that had a specific rhyming scheme, others had a more free verse approach, and still others used a combination of the two. When one student asked about punctuation, Annette replied, "Punctuation is the author's choice. You can choose traditional poetry or you can choose a non-traditional approach. It is the message that is important, not the grammar."

An analysis of classroom documents revealed that Annette gave options when developing assignments. For example, Annette developed a unit using the Titanic as the

theme. There were over 50 projects that students could choose from to earn points for a grade. The projects were divided in a way to accommodate various learning styles and interests. Some examples included: (a) make a time-line of the important events of the voyage, (b) draw a map of the voyage, (c) pretend you are sailing on the Titanic and write an eyewitness account, (d) write a diary as if you were on board, (e) analyze the Titanic tragedy in light of the Greek myths we have studied, (f) what could have been done to prevent the tragedy?

#### *Choices with Whom and Where Students Work*

Besides having choices regarding instructional tasks, the students were also given choices to determine if they would work in pairs, partners, or groups. This occurred during almost every observation and seemed to be a natural and common option for students. Students were generally given options as to where they would work too. It was very common to see some students at desks, others on the floor, some at small tables, and even others outside the classroom.

During an interview with Paula, I asked her if giving choices was purposefully orchestrated or if it just flowed because of her personality. She commented:

I think it is a bit of each. Part of it is, you know, knowing the kids and knowing what they need. There are some kids in here who are pretty uncomfortable working with partners. What's my goal? I want them to accomplish X, Y, or Z, and if I put them in a situation where they're going to shut down because they don't like the grouping, I'm going to get nothing, so yes, it's conscious.

Giving students choices was a major theme that all three mindful teachers shared. Each teacher gave choices that ranged from choosing books to read for literacy circles to

choosing if they worked individually or with another person. The theme of giving choices was evident in the fact that the teachers let the students choose aspects of classroom assignments and gave choices regarding whom the student could work with and where the student could complete the work.

### Elaboration of Thinking

A third theme that emerged during data collection was the time that each teacher spent attempting to get students to elaborate their thinking. The primary way this was accomplished was through questioning, discussing, and articulating thinking. The students were challenged to extend their thinking by stating relevant examples, being more descriptive, and clarifying answers. This elaboration of thinking was encouraged and guided through effective questioning by each teacher. Also, each teacher required elaboration of student thinking by having students articulate their thinking or the process that led them to the response they gave.

### *Elaboration through Effective Questioning*

During one lesson, Wilma worked with a student in order to get the student to expand his ideas on his weekly literacy letter. The particular student was writing about the same topic every week in this literacy letter. Wilma used questioning to help the student expand his ideas. In this observed conversation, the student told Wilma that he picked the book because he liked the illustrations. Wilma then stated:

Topic 14 on your literacy response sheet is about how illustrations add to the story. Would that be a possible topic you would be interested in? Have you read other books about Egyptians? You could also compare this book with another book you have read on the topic. What do you think? There are so many things

you could write about in your next letter. I would be happy to work with you to get started. I just want you to think about other responses to the book. Think of other ways you can respond to the text.

The student later decided that he wanted to write about the illustrations and how they added to the story. Wilma periodically went over to the student while he was working and asked him questions and encouraged him during his writing. Wilma used this technique of questioning frequently during literacy groups. When Wilma asked a question and the students did not respond she asked more questions to elicit a response.

In another lesson, Annette read the students an article about delayed gratification in students. In this article, an experiment was conducted in which teens were told that they could have \$1 immediately or they could have \$2 next week. Most of the students in the article took the \$1. A discussion then began over the idea of delayed gratification. Annette asked the students to think about the characteristics a person would need to have delayed gratification. At first, the students had a hard time answering the question so Annette asked, "What is that quality called?" The students then began to use adjectives to describe individuals who might wait for gratification. The most common word used was self-discipline. Annette then stated, "I have a provocative question. Do you think there is a difference between girls and boys and the level of self-discipline?" This question sparked a long debate. Annette continued to ask questions to elicit more ideas, "What would you be willing to wait for? Do you think delayed gratification would help you succeed in school? How?"

To conclude the discussion Annette asked the students to make a T chart that listed things in which they believed they were disciplined and on the other side things in



which their parents or teachers want them to be disciplined. Annette then asked the students to think of times that it might be a bad thing to have delayed gratification. She responded, “What do you think? I know that there are many times that I am very impulsive and don’t want to wait on things. Maybe that isn’t always bad?”

### *Articulation of Thinking*

Later, during an interview with Annette she explained that she does use questioning to get her students to articulate their thinking and elaborate on their ideas. She explained, “I say something like, can you examine this from a different angle? Can you see how this applies to something else? Does this remind you of anything else in your experience? Can you think of anything that this is related to?” She explained that phrases that teachers use that do not clearly articulate thinking frustrate her. For example, “I’ll tell you my pet peeve phrase that I hate teachers to say -- common sense. That is my least favorite phrase in the entire world, because I don’t know what that means. What is common sense? Is it the same thing as common thinking?”

Paula required students to elaborate their thinking in the area of math. Instead of merely giving an answer to a question, she asked the students to be clear in their explanations by using words to describe their thinking. Paula modeled thinking aloud during a math lesson. For example, in one lesson she asked, “What is the key word in the problem? What do you need to know to solve the problem?” In this same lesson instead of merely giving a definition for fractions and decimals, she asked the students to think of places in life that they would see fractions, decimals, or percents. After many student examples Paula replied, “Did anyone watch the Syracuse game last night? What did you hear that might have percents? What else?” The students continued to give examples.

Then Paula asked the students to write  $\frac{1}{2}$ , 50%, and .50. She asked, “Talk to the person next to you and explain how these numbers are related. What do you think?” The following dialogue then occurred.

S: They all mean 50.

P: What do you mean? Don’t back off. Explain.

S: They are all 50% of something.

P: Would you agree that these are all ways to show  $\frac{1}{2}$  of something?

P: Have you ever seen 50% of a cup of sugar?

S: No?

P: What about if you are shopping for an IPOD? The price of the IPOD is \$199 and  $\frac{1}{2}$  of another dollar?

S: No, it is \$199.50.

P: That is how it is written when you write a price. You could write it differently but we hardly ever do.

P: Even though .50,  $\frac{1}{2}$ , and 50% are the same value, they are not used the same way in life. We have a customary way to use them. Make sense?

In this dialogue, Paula demonstrated her ability to elaborate students’ understanding of concepts. She went beyond the students giving simple definitions and instead required students to give examples, non-examples, and application. Paula commented on the importance of verbalizing thinking.

I need to find out what’s going on in their head. I tell them all the time that I can’t pull the top off their head and watch the words inside. I need to know what’s in there. And I’ll just keep asking questions until they give me something.

And I think sometimes that helps them clarify their thought processes. You know, the concept is up there, but until you can verbalize it, until it becomes concrete, it might not be fully formed. And I've seen a couple of "ah-hah" moments at the end. I tend to be a verbal processor personally, so I'm sure that impacts, the fact that I'm willing to yank it out of them verbally.

However, Paula did add that giving students too many examples of thinking may have disadvantages if the students think there is only one way to solve the problem. She commented:

I struggle with it sometimes because I think that you can lead a kid too far, and I'm always fighting against modeling that thinking process and showing a kid how I want them to think, which are two totally different things. And I try to say to them, okay, I'm going to do a think-aloud right now. If I were working my way through this, this is what I would be saying in my head, and lay it right out there and show them a series of steps, because they need to understand what that looks like. But I don't want to do it real often because I don't want them to think that those are necessarily the steps that they need to follow.

In this particular example, Paula demonstrated the importance of articulating thinking as well as the importance of considering the process in which a problem was solved. There were numerous examples in which one teaching vignette could serve as an example for more than one theme.

Annette also tried to explain how she thought about different perspectives when trying to get students to articulate their thinking. During one particular lesson, the students had to imagine that they were in space and complete a simulation activity in

which they had to rank the most important ten items that were needed for the mission. To get them thinking about the problem Annette commented, “Try to get yourself in the frame of these people. You are living or dying together. You must work as a group. I know I can’t simulate that feeling, but I want you to try to think as if you were those people.”

Later in the lesson, the students had to share their answers by justifying the ranking order. Annette asked the students to show examples of good thinking and then to pick the best examples of thinking from other groups. She also required the students to provide evidence of their thinking by giving details.

Effective questioning and articulating thinking encouraged elaboration of thinking. All three teachers modeled how they thought through a process to encourage students to think, but also allowed room for the students to express their process of thinking through a problem. There was a conscious effort to let the students know that their way of thinking was not the only way. In many examples, then, the elaboration of thinking and the process orientation seemed to happen concurrently.

#### Classroom Atmosphere

In all three classrooms, it was evident that a sense of community had been established. The students looked happy to be in class and seemed very connected with each teacher. During my observations, it was very common to hear students make comments related to how much fun they were having and how they liked their class and classmates. Additionally, all three teachers had positive attitudes about their students. On my first observation, Paula made the following comment, “I really have a wonderful class this year.” Likewise, Wilma stated, “This is the nicest group of kids I have ever worked

with.” Annette also related her positive attitude regarding her class. “They’re a very compassionate class and they’re interested in so many different things, and they’re active and they have visions already that are far beyond a sixth grade classroom.” They also frequently praised the students and made encouraging comments that demonstrated their belief in the students’ abilities. For example, during one observation Paula commented: “There are high school students who can’t figure this out as fast as you can. Ask your mom what  $\frac{1}{4} + \frac{2}{8}$  is and look at her. She will think you have two heads.” The similar positive classroom atmospheres seemed to be a result of three major sub themes that included the following: (a) emphasis on establishing relationships, (b) incorporation of fun, and (c) ability to pay attention to multiple tasks at one time.

#### *Established Relationships*

Many times, I noticed that these teachers did not speak at their students but *to their students*. This seemed to set the tone for positive student-teacher relationships, relationships the teachers seemed to hold paramount. Paula commented on this:

If I don’t get to know these kids as people, then I don’t know how they function with each other and their environment, and I’m going to get nothing out of them, ever. I spend a lot of time at the beginning of the year trying to get to know them personally, who they are and how they work, and I still don’t feel like I get to know them enough. You know, it’s not until the end of the year and you’re sending them -- oh gee, well, give me another year with that kid and I could really make some progress, because I really know him now.

Likewise, Wilma seemed to deal with classroom management issues by talking with students about problems. She commented, “I am always available to talk in the morning and if they have a problem they know they can talk to me.”

Annette also commented that relationships were very important. She made the following statement about Wilma and Paula:

I’ll tell you two things that I admire about the two of them (referring to Wilma and Paula) very much, and I would hope that I would at least try this with my own class, but I think we are somewhat similar, is that they bond with their students. I mean, you ask them about any one of their students right now and they’d be able to tell you all sorts about their background, about the kid’s interest, about their hopes for the child in the future. I mean, it’s as if they’re foster children given to us for ten months and the responsibility is not just for their learning, but also for their whole lives. And I wouldn’t know how to teach any differently, and I don’t think they could either.

All three teachers commented during interviews that relationship building was paramount in their classrooms. Relationships seemed to be the cement that held everything together.

It was evident that the students had strong relationships with each other too. Frequently, students helped other students, assisted each other in academic tasks, and spoke to each other in a respectful manner. They also looked out for each other by getting books for absent students, clarifying directions, and praising each other’s work.

### *Incorporated Fun*

All teachers thought that teaching was fun and commented that they purposefully tried to add fun elements to the day. Adding fun was another way the teachers built

relationships and it seemed to contribute to the positive classroom atmosphere. Paula commented:

It's got to be fun. Kids have to be engaged, and I think the fun comes from the engaging piece. If the kids are not invested in what's going on you can talk until you are blue in the face and it doesn't make a bit of difference. And I think the engaging and the fun goes together.

Wilma explained that she purposefully has a goal of making students happy. Wilma added, "That is one of my goals. I wouldn't want my 10-year-old to be miserable nine months out of the year. That is totally unacceptable. They are only 10 once. They can laugh and have fun" Annette also commented, "Fun is extremely important in teaching."

#### *Attention to Multiple Tasks*

A third factor that seemed to foster a positive classroom environment involved the teachers' ability to attend to multiple tasks. During observations, it was common to witness two or three different activities happening at one time. For example, during reading groups, Wilma was able to notice students who were off task and then redirect them appropriately. During group presentations, Annette was able to direct the presentations while directing one student to go to a time out area for disruptive behavior. Looking at the student, pointing to the time out area, and raising five fingers to indicate a five-minute time out accomplished this. During math games, Paula was able to cut out extra manipulatives, give directions to the math game, and direct students to work areas. These examples demonstrate the teachers' abilities to multitask and attend to both the academic task at hand and management issues. The behavior issues were generally taken care of by constantly rotating around the room and interacting with the students. The

ability to attend and notice so many different activities in the classroom made me consider if teachers really do have eyes in the back of their heads. This ability of teachers to multitask meant that the classrooms were relaxed, and there were no major discipline incidents. Problems were generally taken care of in a very non-intrusive way rather than in front of the whole classroom.

The core of the positive atmosphere was the relationships that each teacher had with her students. Also, incorporating fun and being able to attend to more than one student at a time helped in achieving a productive atmosphere.

The purpose of this chapter was to explain the results obtained from the data collection. Throughout the data collection process, recurring patterns, relationships, and these were noted. The data were coded according to the themes. The four major themes that emerged included the following: (a) a process orientation rather than a response orientation, (b) giving students choices, (c) elaborating thinking, and (d) positive classroom atmosphere.



## CHAPTER 5

### DISCUSSION

The purpose of this study was to create a picture of mindful teachers. This research examined what it means to be a mindful teacher by exploring the characteristics of three mindful teachers via case studies that consisted of observations and interviews. A secondary source of information consisted of an analysis of classroom documents. The data collection occurred during a three-month period.

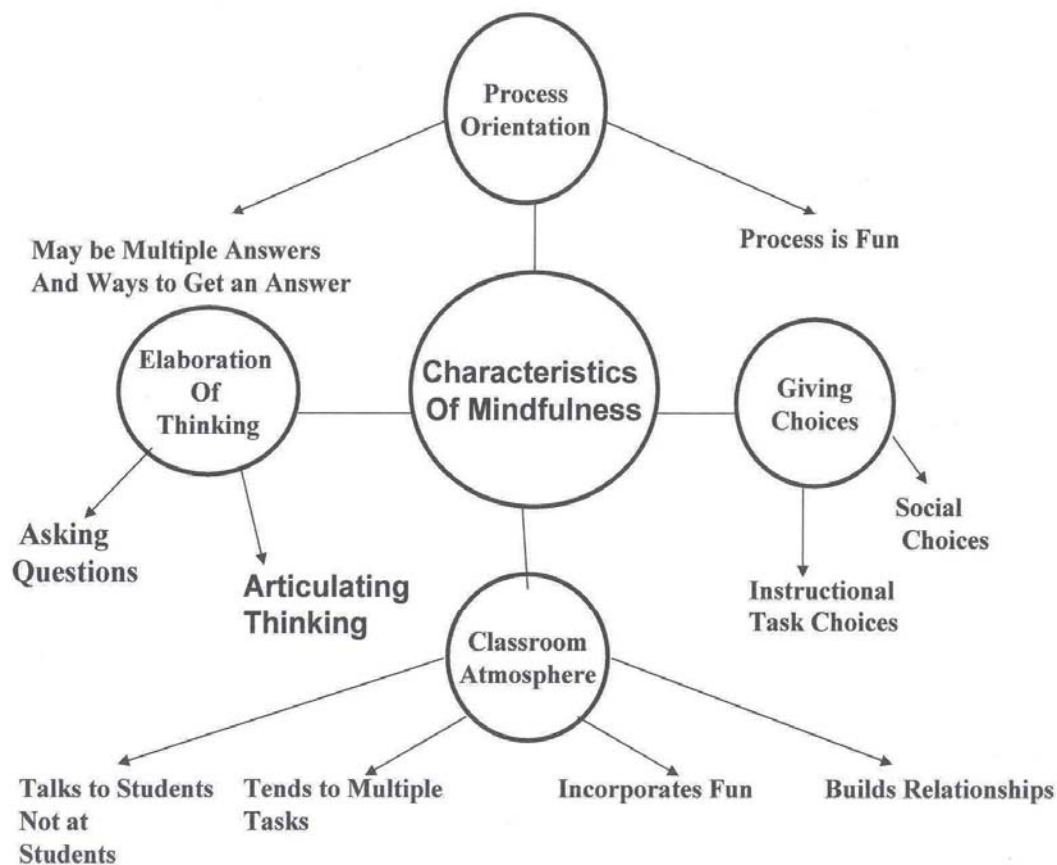
#### Summary of Findings

Throughout the data collection process, recurring patterns, relationships, and themes were noted. The data were then coded according to the themes. The four major themes that emerged included the following: (a) a process orientation rather than a response orientation (b) giving students choices, (c) elaborating thinking, and (d) positive classroom atmosphere.

A process orientation was seen in the way that the teachers encouraged students to think of multiple answers to a problem and multiple ways to figure out a problem. Students were given choices in the instructional strategies and in social situations. For example, students could generally pick where they wanted to work and in what social forum they wanted to work. The elaboration of thinking was encouraged through the use of effective questioning and articulation of thinking. Lastly, there was a similar positive classroom atmosphere that seemed to result from an emphasis on communication, relationships, fun, and the ability to attend to multiple tasks at one time.

The concept map below depicts these four major themes and sub themes that emerged.

Figure 1: Concept Map of Major Themes



### *Discussion of Process Orientation*

Langer (1997) described mindful teachers as individuals who emphasize process over a response orientation. This research corroborated that view. Langer (1997) contended that when students have the freedom to define the process and explore possibilities they rid themselves of an outcome goal orientation and thus are not limited to one particular answer. Because the students do not have a particular “correct” answer

or format they have the freedom to explore alternatives that otherwise may not have been considered. The individual does not have to concentrate on “Can I do it?” but “How do I do it?” As a result, student productivity and creativity can be increased.

This fact was observed when Annette’s class was writing poems about peace. I never heard a student question his or her ability to write the poem. Instead, the conversations that I heard were in regard to *how* they could write the poem. As a result, the students wrote a wide variety of poems and I noted that every student completed the assignment. In Wilma’s class, the students did not question if they could read a book, but instead the conversations were about what they should read and how much they should read. Likewise, in Paula’s class when students played math games, they did not question if they could determine the answer. Instead, the students spent time thinking about the various ways the problems could be solved.

The process orientation did lead to uncertainty in students. Many times, students asked the participant teachers if an answer was correct and the students seemed a little annoyed that their answers were not confirmed. This is consistent with Langer’s view that uncertainty is a result of an emphasis on process instead of content. Langer (1997) stated:

From a mindful perspective, however, uncertainty creates freedom to discover meaning. If there are meaningful choices, there is uncertainty. If there is no choice, there is no uncertainty and no opportunity for control. The theory of mindfulness insists that uncertainty and the experience of personal control are inseparable. (p. 130)

The students were uncertain many times, but this uncertainty did help the students to realize that they had some control. Knowing that an individual is in control of his or her own learning can be rewarding but it can also be scary because in the end each individual becomes responsible for his or her own learning.

The process orientation also seemed to contribute to the positive classroom atmosphere. This was corroborated by previous mindfulness research. Demick (2000) contended that mindfulness can promote positive mental health because the individual feels that he or she is in control instead of merely being forced into a situation. It is my contention that this feeling of control over one's own learning contributed to the positive classroom environment. However, one could also argue that the teachers' abilities to build relationships with the students promoted the positive atmosphere in the classroom. Whatever the case, it appeared that the two concepts of a feeling of control over process and a positive classroom atmosphere were somehow related.

It was also noted that all the teachers commented that learning was not always a linear process. Mindful theorists corroborated the idea that problem solving is not always linear. Brown and Langer (1990) contended that mindful individuals generally do not move directly from problem to resolution but remain open to new ways of viewing the problem. This flexibility allows the individual to view the information from several different perspectives instead of from one constructed category. When one views a problem from different perspectives, new information that is not considered originally is viewed in a different light. For example, the drug minoxidil was originally developed to lower blood pressure. However, it was shown that the drug had a side effect: hair growth. From the perspective of a 20-year-old woman, hair growth may be an

undesirable side effect, but from the perspective of a 60-year-old balding man, hair growth is viewed as a positive side effect. If the inventors of this drug had stuck to their original problem, they would have missed the alternative possibilities. Likewise, when a teacher is mindful and looks at problem solving from multiple perspectives instead of a linear path, new possibilities can be found.

This concept was observed in Annette's classroom. Annette wanted the students to solve a problem in which they had to rank items needed to survive in space. She asked the students to consider it from the perspectives of the people in space as well as those individuals who were on Earth. The individuals actually in space may be anxious because their very lives are in jeopardy. This perspective may cause the individuals to think differently about the problem. After Annette led the students to consider other perspectives, the student answers became more diverse because multiple paths to the problem were considered.

These teachers also emphasized the connectedness of subject matter and how the educational content was applicable to everyday life. This idea of curriculum relations aligns with a postmodern curriculum theory. Doll (1993) described a postmodern curriculum as a matrix that has no beginning or ending. Instead, a postmodern curriculum is nonlinear and non-sequential. Furthermore, it is filled with intersecting foci. Doll contends that the greater the connections, the deeper the meaning. Langer (1997) described experiences in which mindful instruction of material resulted in students being able to solve problems with greater extrapolation and creativity than students who did not receive mindful instruction. It was also noted that the process of learning was emphasized because it was fun. This research corroborated the work of Langer (1997)

who contended that many times teachers tell students that they can have fun after they have completed their schoolwork. This idea suggests that learning tasks are bad and the other activities are good. Langer argued that work and study do not have to be negative. Instead, school should be viewed as fun. Since most of us enjoy doing *fun* things as compared to *not fun* things, students should become more engaged in the learning task if they view it from a fun perspective. There does not have to be a reward for doing work, because the learning process becomes the reward and the fun.

The idea of incorporating fun has been promoted by other educational theorists too. Glasser (1993) proposed that fun is one of our basic psychological needs. When students do not have this need fulfilled in school, they may become bored and try to seek fun in another way. Rea (1999) argued that teachers should provide opportunities for students to experience fun through games and playful challenges. These experiences are guided by the teacher and structured so the students can grasp concepts and gain valuable skills. It could be argued that this fun component helped students academically and also contributed to the positive classroom environment. If one adheres to the contention of Glasser (1993), Rea (1999), and Langer (1997), fun is a necessary component of school and will help the students both academically and mentally. Thus, the importance of incorporating fun does seem to be supported by mindful research as well as other educational theorists.

#### *Discussion of Giving Choices*

The theme of giving students choices was a consistent characteristic of the three mindful teachers in the study. It appeared that the idea of giving choices increased student engagement. This finding is consistent with Langer (1997) who argued that when

individuals are given choices and information is viewed not as stable, the individual is forced to be observant. Langer described this as soft vigilance in which the individual is open to more information. During the observations, student engagement seemed to increase when students were involved in a task in which they had choices. This was most noticed in Paula's math class. Paula consistently used games in which the students had to continually examine information from different perspectives. During the games, the students had to change perspectives based on their opponent's move. In comparison, if Paula had given her class a worksheet on the math facts, the information would be stagnant and the students could have a tunnel vision view of the information.

Giving students choices is a characteristic of mindful teachers, but it is also consistent with other curriculum and instructional theories. Blumenfeld (1992) summarized his research on teacher practices that relate to high student engagement. One consistent pattern is that teachers who have high student engagement offered students opportunities to learn by their choice of topics, activities, and type of task product. Malone and Lepper (1987) contended that higher engagement should result from giving choices because students feel a sense of ownership and control in their learning. Gardner (1999) advocated that teachers give students choices in classroom assignments to accommodate each student's intelligence. Additionally, the *Balanced Literacy* approach for teaching English and Language Arts stresses the importance of giving student choices (Fountas & Pinnell, 2004). Many of the examples noted during observations were related to reading components of balanced literacy. It could be argued that the teachers gave choices not because they were mindful but because giving choices was a component of the district's reading curriculum. One cannot make the assumption that these teachers

gave choices because they were mindful. It could be as a result of other theories the participants incorporated in their daily teaching.

### *Elaboration of Thinking*

The third major theme that emerged was that each participant encouraged and led by example the practice of elaborating their thinking. Effective questioning and modeling thinking aloud encouraged elaboration of thinking. The participants requested additional details, asked for clarification of ideas, offered contrasting views, and connected new material with past learning. Elaboration of thinking was achieved when the teacher acted as a coach, and provided prompts for thinking instead of telling the students the answer.

The idea of elaboration of thinking meshes with Vygotsky's view of thinking and learning. Crain (1992) explained that Vygotsky believed that knowledge is social and is constructed through interaction that includes exchanges in information, discovering weak points in reasoning, and adjusting understanding on the basis of new information and new understandings. This view encourages dialogue between teacher and student. This dialogue provides guidance and support because the adult models their thinking. The main point is that children do benefit from knowledge and dialogue with teachers.

This theme of elaboration of thinking aligns with the process orientation of each classroom. The teachers were not content with the answer, but wanted the students to understand the answer and go beyond merely regurgitating facts. This emphasis on elaboration of thinking is a characteristic of mindfulness. Langer (1993) explains that mindful teachers are not concerned with going directly from a question to an answer. Instead, mindful teachers seek alternative viewpoints. When discussing problems, an answer from one perspective may raise questions from another. This is a type of



elaboration because the learner is going beyond reciting one particular answer. The emphasis on elaboration of one's thinking is also proposed by educational theorists who adhere to a dispositional view of intelligence.

Other educational theorists like Ritchhart and Perkins (2000) advocate good and productive thinking that is modeled by teachers and articulated by students. Costa (2001), another proponent of the dispositional view of intelligence, also advocates elaboration of thinking by modeling a language of thinking in which students use precise terminology to describe one's thinking. For example, instead of asking: What do you think will happen next, a more precise language would be, what do you predict will happen next?

Lastly, elaborating thinking by encouraging conversations and thinking aloud aligns with a postmodern view of curriculum that views curriculum as a conversation. Doll (2002) explains that conversation in which we speak and listen to each other promotes understanding. Doll challenges teachers to "...encourage students to have conversations with language arts, mathematics, science and social science texts and the contents therein" (p. 50). It is through these conversations that curriculum can become rich and deeper in understanding.

### *Classroom Environment*

The last theme that emerged was that all classrooms had a similar positive classroom environment. Relationships with students seemed to be the root of the positive classroom environment. All three educators purposefully attended to the relational aspects of teaching. This does not mean that they were not concerned with the more

concrete aspects of teaching like teaching strategies or classroom management, but it does mean that these dimensions were considered from the context of relationships.

This overall theme of developing relations fits the feminist philosophy of curriculum development. Carol Gilligan explains that women have had different experiences from men. Women's experiences are largely related to caring, nurturing, and motherhood and so a model of an ethic of care should be developed in classrooms (Honderich, 1995). Noddings (1995) makes a similar plea to teachers by advocating an ethic of care that speaks of obligation. An ethic of care develops a sense of *I must* do something; this is not a duty, but a desire. Sidorkin (2002) summarizes this type of ethic of care by saying, "Relation is not only the savior of education, and it is also the building block of the universe" (p. 88). All three teachers commented that relationships were paramount in their classrooms. They also commented that being a mother gave them a unique perspective because they viewed their students not just as students but as someone's child.

It was also observed that the teachers all talked *to* students not *at* students. Other curriculum theorists advocate the importance of dialogue in relationship building. Sidorkin (2002), Liston (2001), and Welch (1998) all advocated a dialogical relationship of *I and Thou* as described by Martin Buber. Sidorkin (2002) contended that relationships should have precedent over things and individuals and uses Buber's argument that we can either have *Thou-It* relationships or have *I-Thou* relationships. Ozmon and Craver (2003) described these relationships. In a *Thou-It* relationship, the individual is viewed as an object. Many students today believe that they are only viewed as a number stored in a computer. The teacher grades papers, gives grades, and the

student and teacher remain separate. In an *I-Thou* relationship, the individual is not viewed as an object but instead is viewed as a person with whom ideas, knowledge, and aspirations can be shared. Buber believed that the student and teacher should have a relationship in which they are equal in terms of their humanity.

During my observations the participants established an *I-Thou* relationship. The development of these relationships with students was not detrimental to their learning; instead, this type of relationship resulted in the students wanting to be in school. Sidorkin (2002) explained that when students and teachers have positive *I-Thou* relationships, they want to go to school not because of what they will do, but because of whom they will meet. This seemed to be the case during my observations.

I contend that giving choices, encouraging a process orientation and elaboration of thinking all intersect and help to create the positive classroom environment. When the teachers were involved in teaching activities that promoted the abovementioned themes, they had to interact with the students. I consistently observed the teachers walking around, monitoring progress, and talking with the students. This type of interaction led to better teacher/student relationships. The teachers knew the students and were mindful of what they needed academically. Relationships were purposefully fostered, but were also indirectly fostered as a result of the mindful teaching practices.

It should be noted that the emphasis of this research was on mindful teaching practices. This does not mean that each participant acted in a mindful manner at all times during the study. There were occasions in which the participants acted mindlessly. For example, I observed times when the participants did not require elaboration of thinking but accepted a short response with little explanation. There were also times when

students were not given choices in their instructional tasks. To truly create a picture of mindfulness, it should be understood that a person can have a disposition to act mindfully but they may not be mindful in all circumstances at all times.

### Conclusion

To my dismay, many times I hear students, including my own children; describe school as mundane, repetitive, and plain boring. Sometimes, when I am in a boring situation, my mind tends to wander. If I know what will happen in the next 15 minutes, I simply do not pay attention. Because I am not attending to the situation, I make mistakes or forget things. This frequently happens to me when I am driving. Because I have traveled the same way over and over again, I tend to go on automatic pilot. I become mindless. Consider this same mindset in education. Imagine for a moment that you are a teacher who has been teaching the same subject, grade, or class year after year with little change. You use the same teaching techniques, employ the same assessment strategies, use the same materials, and treat all your students the same year after year. You operate on automatic pilot in a mindless manner.

The opposite of mindlessness is being mindful. Vines (1997) examines the word mindfulness from the original Greek. He defines mindfulness as, “to remember, to be mindful of, in the sense of caring for” (p. 753). The meaning for mindfulness is found only in the present tense not in the past. This translation of the word from the Greek to English seems to fit the general characteristics of the teaching practices I observed during the course of this research. The three teachers in the case studies were not on automatic pilot but were active and situated in the present. They thought about the needs of their students in an active sense. They didn’t just know their students, in the sense that we

know our social security number, but they were mindful of their students in the sense that they cared for them.

This research examined how mindfulness is lived out in the teaching practices of three mindful teachers. The four major themes that emerged included the following: (a) emphasized a process orientation rather than, a response orientation (b) gave students choices, (c) required students to elaborate thinking, and (d) created a positive classroom atmosphere. Although the data from the research were discussed by categorizing the data in themes, many of the examples presented could be related to more than one theme. It seems that one theme affected the other and vice versa. Additionally, as the research unfolded the idea of a curriculum matrix that aligns with a postmodern view of curriculum became apparent. Doll (1993) explains it as follows, “A matrix, of course, has no beginning or ending; it does have boundaries and it was points of intersection or foci. So, too, curriculum modeled on a matrix is nonlinear and non sequential but bounded and filled with intersecting foci and related webs of meaning” (p. 162). The data seemed to follow this idea. In the end, the data can best be described as holistic, integrated, and dynamic.

#### Implications and Applications for the Field of Curriculum Studies

Encouraging mindful teaching practices would have many implications on the field of education. The first implication involves how we assess students. The characteristic of mindfulness does not appear to mesh with current high stakes testing in which students are asked for specific answers on standardized tests. Posner (2004) explains that standardized test questions are generally limited in form and complexity due to the short amount of time individuals have to answer each question. Additionally, on a

standardized test, all the data necessary to solve a problem are present with the problem. Students are not able to research and find additional information to help them solve the problem.

Encouraging teachers to engage in mindful teaching practices would mean that assessment techniques would have to be changed. This could be accomplished by presenting problems from a mindful perspective. Brown and Langer (1990) argue that students should mindfully solve problems that are more complex and lengthy to solve. These types of problems should be mindfully considered. When one considers information mindfully, he or she views the situation from several perspectives instead of one perspective and sees the information presented in the problem as novel. Additionally, mindfully considering a problem requires the individual to attend to the context in which one perceives the problem and then to create a new category in which the information may be understood.

Many believe that instead of teaching generally useful skills that can be applied to different contexts, teachers are teaching skills that are only applicable to a particular test. In these tests, the answer is important, not the process (Klein, Hamilton, McCaffrey, & Stecher, 1998; Koretz & Barron, 1998; McNeil & Valenzuela, 2000). Additionally, students are rarely given choices in how they can answer the questions and elaboration is not necessary. This is in sharp contrast to mindfulness, which emphasizes a process orientation and the idea of choice (Langer, 1997).

All three teachers noted that it was getting more and more difficult to mesh their teaching philosophy with the district's assessment philosophy. Annette elaborated on this:

The way New York has designed their tests right now, they are so meticulous about what I consider nit-picky aspects that a child's creativity, a child's differences in interpretation, perspective, the rest, are not honored. They are assessing future bureaucrats. If you can remember to cross every T, dot every I and do all these little things, then you'll be fine, but if you, no matter how beautiful an essay you write, if you don't follow the directions exactly as they were written you're not going to get credit.

Currently, most school districts rely on standardized tests as their major form of assessment. This is like using one snap shot of an individual instead of a photo album. School districts could use multiple forms of assessment for students. Portfolios, performance based assessments, and student projects could be used so create a better picture of the overall academic strengths of each student.

A second major implication is to align mindful teaching practices with the constructivist theory. While mindfulness does not appear to align with current educational assessment practices, it appears that many mindful teaching practices are aligned with current theories of instruction that have constructivist underpinnings. Constructivism originates in the work of Vygotsky. According to Vygotsky knowledge is acquired through social interaction with knowledgeable peers (Bigelow & Zhou, 2001). The teacher acts as a bridge to help the student learn the cognitive skills necessary in education. Mindful teaching practices and constructivism share common themes. Mindfulness theory should be introduced to future students and supported in teacher training programs. Linking the phenomenon of mindfulness with other educational theories should help validate its effectiveness.

Mindfulness theory could be taught in educational theory courses. Besides just teaching the theory, university professors must examine their own teaching practices to ascertain if they are encouraging mindfulness or if they are promoting mindlessness by teaching information from one perspective. Additionally, schools that educate teachers could evaluate characteristics of mindfulness throughout the students' tenure so each student could reflect on his or her growth in each area. Besides these self evaluations, faculty and supervising teachers could also evaluate students on characteristics related to mindfulness. For example, the university that I work in now has students complete a dispositional self-evaluation during their first core class. Some of these dispositions include: the ability to teach from multiple perspectives, flexibility, and openness to novelty. These are all characteristics that promote mindfulness. During the students' pre-student teaching experience they are again asked to complete a dispositional self-evaluation form. The college supervisors and supervising teachers also complete these forms. At the end of the pre-student teaching experience, a debriefing meeting is held and these dispositions are reflected upon by all parties. This same process occurs during the student teaching experience too. An emphasis on dispositions throughout the teacher education program allows students to reflect on these dispositions and then improve.

Lastly, encouraging mindfulness means that faculty and staff in higher education must create opportunities for students to develop student faculty relationships and student-student connections. The current research showed the teachers all established positive relationships with students. There was a sense of a community of caring between teachers and students and among the students themselves. Teachers in higher education should help to create relationships by giving students opportunities for connecting in



conversation and dialogue. Specifically, organizing groups of students in cohorts throughout their educational program may help to provide the opportunities for these relationships. Specific professors could be assigned to specific cohorts in hopes of establishing and promoting relationships.

#### Future Studies

The teachers in this research were identified as being mindful. Other research should be conducted to assess if modeling mindfulness in the classroom could help to create more mindful teacher candidates. Mindfulness surveys could be administered at the beginning and end of teacher education programs to determine if mindfulness is increased or diminished by teacher education programs. Another avenue of research is to see if the incorporation of mindful teaching dispositions could increase mindfulness of students in teacher education programs. Currently, *NCATE* is requiring that teacher candidates education programs document teaching dispositions that the institution wants teacher to develop. Many of the characteristics of mindfulness like flexibility in thinking, the ability to solve problems from different perspectives, and novelty of thinking could be included as important dispositions and purposefully modeled and encouraged throughout teacher education programs.

Other research should also be conducted to ascertain the effects of mindful teaching practices on student achievement over a long-term period. The mental health effects of mindful teaching practices should also be examined to determine if mindful teachers can enhance student motivation and enjoyment of school.

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## APPENDICES

APPENDIX A  
LANGER'S MINDFULNESS SURVEY

**Instructions: Below are a number of statements that refer to your personal outlook.**

**Please rate the extent to which you agree with each of these statements. If you are confused by the wording of an item, have no opinion, or neither agree nor disagree, use the "4" or "NEUTRAL" rating. Thank you for your assistance.**

	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
						Disagree	Agree
1. I like to investigate things.	1	2	3	4	5	6	7
2. I generate few novel ideas.	1	2	3	4	5	6	7
3. I am always open to new ways of doing things.	1	2	3	4	5	6	7
4. I "get involved" in almost everything I do.	1	2	3	4	5	6	7
5. I do not actively seek to learn new things.	1	2	3	4	5	6	7
6. I make many novel contributions.	1	2	3	4	5	6	7
7. I stay with the old tried and true ways of doing things.	1	2	3	4	5	6	7
8. I seldom notice what other people are up to.	1	2	3	4	5	6	7
9. I avoid thought-provoking conversations.	1	2	3	4	5	6	7
10. I am very creative.	1	2	3	4	5	6	7
11. I can behave in many different ways for a given situation.	1	2	3	4	5	6	7
12. I attend to the "big picture."	1	2	3	4	5	6	7
13. I am very curious.	1	2	3	4	5	6	7
14. I try to think of new ways of doing things.	1	2	3	4	5	6	7
15. I am rarely aware of changes.	1	2	3	4	5	6	7
16. I have an open mind about everything, even things that challenge my core beliefs.	1	2	3	4	5	6	7
17. I like to be challenged intellectually.	1	2	3	4	5	6	7
18. I find it easy to create new and effective ideas.	1	2	3	4	5	6	7
19. I am rarely alert to new developments.	1	2	3	4	5	6	7
20. I like to figure out how things work.	1	2	3	4	5	6	7
21. I am not an original thinker.	1	2	3	4	5	6	7

## Scoring the LMS-21

The LMS is comprised of 4 indicator domains: novelty producing, novelty seeking, flexibility, and engagement. Items marked (R) should be reverse coded. The LMS score is the sum of all 21 items, suitably scored.

### **Novelty Producing Domain (6 items)**

- 2. I generate few novel ideas. (R)
- 6. I make many novel contributions.
- 10. I am very creative.
- 14. I try to think of new ways of doing things.
- 18. I find it easy to create new and effective ideas.
- 21. I am not an original thinker. (R)

### **Novelty Seeking Domain (6 items)**

- 1. I like to investigate things.
- 5. I do not actively seek to learn new things. (R)
- 9. I avoid thought provoking conversations. (R)
- 13. I am very curious.
- 17. I like being challenged intellectually.
- 20. I like to figure out how things work.

### **Flexibility Domain (4 items)**

- 3. I am always open to new ways of doing things.
- 7. I stay with the old tried and true ways of doing things. (R)
- 11. I can behave in many different ways for a given situation.
- 16. I have an open-mind about everything, even things that challenge my core beliefs.

### **Engagement Domain (5 items)**

- 4. I “get involved” in almost everything I do.
- 8. I seldom notice what other people are up to. (R)
- 12. I attend to the “big picture.”
- 15. I am rarely aware of changes. (R)
- 19. I am rarely alert to new developments. (R)

### **The following is SPSS syntax for computing LMS scores...**

```
(COMPUTE novelpro = (8-lms2)+lms6+lms10+lms14+lms18+(8-lms21).
VARIABLE LABELS novelpro 'Novelty Producing Subscale of LMS' .
EXECUTE .
COMPUTE novlseek = lms1+(8-lms5)+(8-lms9)+lms13+lms17+lms20.
VARIABLE LABELS novlseek 'Novelty Seeking Subscale of LMS' .
EXECUTE .
COMPUTE flex = lms3+(8-lms7)+lms11+lms16.
VARIABLE LABELS flex 'Flexibility Subscale of LMS' .
EXECUTE .
COMPUTE engage = lms4+(8-lms8)+lms12+(8-lms15)+(8-lms19).
VARIABLE LABELS engage 'Engagement Subscale of LMS' .
EXECUTE .
COMPUTE lmstot = novelpro+novlseek+flex+engage.
VARIABLE LABELS lmstot 'Total LMS Score
```

APPENDIX B  
PARTICIPANT CONSENT LETTER

COLLEGE OF EDUCATION

---

DEPARTMENT OF CURRICULUM, FOUNDATIONS, and READING

---

My name is Christine Sherretz, and I am a doctoral student at Georgia Southern University in the Department of Curriculum, Foundations, and Reading in the College of Education. The purpose of my research is to investigate the characteristics of mindful teachers. Participation in this evaluation will include the following:

- Completion of the *Langer Mindfulness Scale*, a 21-item survey.
- Observations of teaching on at least 5 different occasions during the months of January 2006-April 2006. Following each observation I will hold a brief conference with you regarding the observation.
- One interview that will last approximately 1 hour in length. The purpose of this interview is to gain further information regarding mindful teacher practices.

There are no risks in this research beyond those experienced in everyday life. This research will benefit the field of curriculum and instruction by examining how mindful teachers teach. It will further delineate the construct of mindfulness as it applies to mindfulness in teaching. All the data collection noted above will take place during the months of January-April of 2006.

I will assign a code to the field notes of the observations and notes from conferences and interviews to protect your identify on all data collection efforts. I will be the only person who knows the linkage between you and the code. This code will be used on all data collection materials; however, only I will have access to your information. All data will be analyzed and collected by me.

If you have questions about this study, please contact me, Christine Sherretz, at (315)681-4158 or by email at [sherrece@potsgdam.edu](mailto:sherrece@potsgdam.edu). For questions concerning your rights as a research participant or the IRB approval process, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-681-0843.

Your participation in this research is voluntary, and there will be no compensation for your participation. You may end your participation in this research at any time by contacting me via phone or email. Additionally, you do not have to answer any questions that you do not want to answer. There is no penalty for deciding not to participate in the study.

You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below. You will be given a copy of this consent form for your records.



Title of Project: Mindful Teachers: Longitudinal Case Studies of Mindful Teaching Practices

Principal Investigator: Christine Sherretz, 9943 Saratoga B., Ft. Drum, NY 13603  
Faculty Advisor: Marlynn Griffin, Associate Professor of Educational Psychology  
P.O. Box 8144 Georgia Southern University  
Statesboro, GA 30460-8144

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

I, the undersigned, verify that the above informed consent procedure has been followed.

\_\_\_\_\_  
Investigator Signature

\_\_\_\_\_  
Date

APPENDIX C  
SAMPLE INTERVIEW QUESTIONS

What is the main concept, skill, or ability you want your students to understand?

1. What is thinking?
2. When is it useful?
3. A red thread is that theme or passion that connects and holds together your teaching practice. What is your red thread?
4. How do you define student success?
5. How do you evaluate student success?
6. Describe your favorite teaching practices.
7. Describe the ideal student.
8. Describe the ideal teacher.
9. Describe the ideal classroom environment.

APPENDIX D  
IRB APPROVAL LETTER

Georgia Southern University Office of Research Services & Sponsored Programs		
<b>Institutional Review Board (IRB)</b>		
Phone: 912-681-5465		Administrative Annex
		P.O. Box 8005
Fax: 912-681-0719	Ovrsight@GeorgiaSouthern.edu	Statesboro, GA 30460

**To:** Christine Sherretz  
9943 Saratoga B  
Ft. Drum, NY 13603

**CC:** Dr. Marylynn Griffin  
P.O. Box 8144

**From:** Office of Research Services and Sponsored Programs  
Administrative Support Office for Research Oversight Committees  
(IACUC/IBC/IRB)

**Date:** December 16, 2005

**Subject:** Status of Application for Approval to Utilize Human Subjects in Research

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After a review of your proposed research project numbered: **H06094**, and titled **“Mindful Teachers: Longitudinal Case Studies of Mindful”**, it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

**This IRB approval is in effect for one year from the date of this letter.** If at the end of that time, there have been no changes to the research protocol, you may request an extension of the approval period for an additional year. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,

Julie B. Cole  
Director of Research Services and Sponsored Programs