

January 2012

Multiple Intelligences in the Text: Examining the Presence of MI Tasks in the Annotated Teacher's Editions of Four High School United States History Textbooks

Carey Mullican

University of South Florida, carey_mullican@yahoo.com

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Multiple Intelligences in the Text:
Examining the Presence of Multiple Intelligences Tasks in the Annotated
Teacher's Editions of Four High School United States History Textbooks

By

Carey D. Mullican

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
In Curriculum and Instruction with an emphasis in
Social Science Education
Department of Secondary Education
College of Education
University of South Florida

Co- Major Professor: Howard Johnston, Ph.D.
Co-Major Professor, Bárbara Cruz, Ed.D.
Cheryl Ellerbrock, Ph.D.
Arthur Shapiro, Ph.D.

Date of Approval:
January 2012

Keywords:
Social studies, curriculum, history textbooks, Gardner

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Dedication

I dedicate this dissertation to my husband, Josh, who has supported me, pushed me, and continually reassured me even during those moments, minutes, or months when I was ready to give up. I could not have done it without you! Thank you for your continued support and love. In addition, I would like to thank my parents who have always inspired me and motivated me through their examples of determination and hard work. There is no possible way that I would be here today without your unconditional love and support.

Acknowledgments

I would like to acknowledge Dr. Howard Johnston and Dr. Barbara Cruz for continued guidance throughout this process. Thank you for having patience with me and always answering questions, e-mails, and concerns. Your dedication, enthusiasm, and work in the field of social science education are inspiring and respected. I would also like to acknowledge Dr. Arthur Shapiro and Dr. Cheryl Ellerbrock for their support, guidance, and assistance in serving on my committee and continued commitment to aiding me in the completion of this work and the degree. I could not have done it without the help of my committee members and I am indebted to you for a large part in my success.

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Abstract

The current state of the social studies classroom comprises one of uninspired students using unexciting textbooks as their guide for learning U.S. history (Hope, 1996; NCES, 1993; Banks, 1990; Wakefield, 2006). With multiple intelligences gaining popularity in education, renewed hope exists for social studies to produce quality textbooks with differentiated instruction to reach all learners. The purpose was to design a rubric for measuring the presence of multiple intelligences structured tasks in teacher's editions of four 11th grade U.S. history textbooks. Using 1995 to 2007 as a purposeful sample of consistent authorships and similar publications, the study looked at teacher's editions of U.S. history textbooks to create a reliable and valid rubric for measuring the presence of multiple intelligences tasks in the teacher's editions of four high school history textbooks. Using this analytical rubric, the researcher analyzed trends of tasks offered in teacher's editions of textbooks to determine whether multiple intelligences tasks were being offered. Findings suggested that teacher's editions do reflect a MI/directive framework over a non-directive framework, with MI/directive tasks appearing much more frequently. However, linguistic/verbal tasks were more likely to appear as the MI/directive task of choice over other categories. Changes were noted in number of tasks found in mid-1990s editions to mid-2000s editions with a decrease in verbal/linguistic and spatial/visual tasks in *The Americans*. Yet *Pathways to the Present* saw an increase in spatial/visual tasks. Hence, it is implied that textbook publishers have

not embraced MI whole-heartedly and have not met all learner's needs in terms of curriculum design. Furthermore, textbooks authors and publishers need to incorporate more variety in learning tasks to include other categories of multiple intelligences.

Chapter 1: Introduction

Imagine sitting in a high school U.S. history class: the teacher reads from the oversized textbook while the students sit quietly trying to hide their boredom, apathy, and genuine disinterest in the subject. After reading from the textbook, the teacher asks the students to answer the review questions found at the end of the section in order to gauge their understanding and comprehension of the content. During the next class, the questions are collected and the mundane cycle begins once again with the subsequent section. After all, teachers have several hundreds of pages of textbook material to get through, and the school year is winding down. As Moulton (1997) describes, the type of scenario is noted at the “textbook bound” teacher that begins the school year on page one and progresses throughout the year in order to get through the comprehensive book. According to research in the late 1990s, survey results showed that about 74% of teachers use textbooks in class at least once per week, and 94% of history teachers use textbooks in their classroom at least once per week, which was higher than any other discipline (Wakefield, 2006).

What is the problem with this scenario? Is it the teacher, the textbook, the student, the curriculum, or the combination of all the stated factors? Are the students actually learning the content in the history class? Are students actively engaged in the learning process? Are differences in intelligences being taken into account? Are specific

skills being taught? Or is the vicious cycle producing students that are poorly educated in history and social studies and could fail to become effective and engaged citizens of the United States and the larger global community?

According to the National Council for the Social Studies Board of Directors (2001), the goal of education is to produce “engaged and effective citizens. NCSS has defined an effective citizen as one who has the knowledge, skills, and attitudes required to assume the ‘office of citizen’ in our democratic republic” (NCSS Board of Directors, 2001, para 2). However, according to recent research by the National Center for Educational Statistics (2006), student test scores in history mostly lie at only the basic level. Before one can begin to solve this dilemma, it is imperative to look at the context of the presented problem.

Background of the Problem

Shifting viewpoints on theories of learning have permeated education over the past 30 years. In classrooms of the past, it was commonplace for teachers to use the textbook as the major tool for instructional purposes (Banks, 1990; Zevin, 2000). It was also commonplace for the teacher to be the only active participant in the learning process, implying that the teacher stood up in front of the classroom delivering the content while the students sat passively at their desks listening, following along in the textbook, and hopefully memorizing the information for the upcoming test. This type of instructional delivery is often referred to as passive learning or direct instruction. Direct instruction has its foundation in the behaviorist model. Through this model, the teacher establishes specific learning goals and builds sequential learning activities based on those objectives. Direct instruction involves teacher led instruction and “provides few optional choices for

student initiated activities, tends to be large group oriented, and tends to emphasize factual knowledge” (Orlich, Harder, Callahan, Trevisan, & Brown, 2004, p. 37).

Related to the direct instruction model is Freire’s concept of banking which suggests that students are empty receptacles that are filled by the teacher educator. According to Freire (1993) and his notion of banking, “education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat” (para. 5). While Freire was not an advocate of this banking model and instead introduced “problem-posing education” in which students and teachers, alike, engage in dialogue and discovery, Freire did believe that the passive idea of banking was detrimental to the education and learning process.

Due to Freire and others, shifting views have developed on student learning and direct instruction or passive learning. These altering views are grounded in the theories of constructivism and promote students being active participants in the learning process. The ideas of constructivism rest on the foundation that learning is constructed, contextual, and teachers may need to rely on several modes of instruction in order for learning to occur (Orlich et al., 2004). Constructivism can be viewed as the “means that each of us through our experiences builds different ways of looking at things, which cause us to develop different perceptions” (Shapiro, 2008, p. 4). Out of these modes of instruction comes the idea of active learning because learners are “actively constructing their own sets of meanings or understandings. Knowledge is not a mere copy of the external world, nor is knowledge acquired by passive absorption or by simple transference from one person to another” (Phillips, 2000, p. 7). Active learning involves

more student-involved types of instruction such as cooperative learning groups, hands-on activities, small group discussion, student presentations, and inquiry-oriented activities in which students are more involved in the learning process (Orlich et al., 2004). In the active learning model, the teacher is viewed as a facilitator to the learning rather than the sole authority of knowledge (Orlich et al., 2004). The teacher is no longer seen as the *depositor* in the active learning model and instead the students become an active participant in their own education. As Phillips (2000) explained, “knowledge is made, not acquired” (p. 7)

In order to explain these shifts in learning theories, one must review brain research and its impact on learning theories, pedagogical methodologies, and thoughts about intelligence. Prior to the 1960s and early 1970s, most thoughts about how the mind worked were based on behaviorist models and attempted to explain what was happening inside the brain by observing outside or visible behavior. Through repeated observations, it was believed that one could understand an individual and thus began to make predictions about his or her behavior and brain processes (Sousa, 2001). However, there are severe limitations to the behaviorist model. According to Sousa (2001), “First, they couldn’t see inside the brain while its owner was still alive and using it, and second, they had to deal with free will—that is, a person’s behavior was not always an accurate reflection of what was happening in the brain” (p. 1). For example, the behaviorist model could not take into account or begin to explain the concept of free will, as behaviorism assumes that repeated observations of behavior are the major way of explaining brain activity, yet with new theories about behavior, constructivists began to question the importance of how one’s free will could control choices and possibly execute alternative

behaviors. With the advent of new technologies, brain-based researchers began the challenge of looking inside the brain to see activity and movement using advanced equipment such as computerized tomography scans, positron emission tomography scans, and magnetic resonance imaging tests. These technological tools have allowed researchers to decipher and to better understand which parts of the brain are dormant and gain new insight into how the brain develops, learns, and processes (Sousa, 2001).

The shift from passive to active learning strategies was prompted by brain-based research which contributed to shifting thoughts about learning, processing, and the intelligence of students. It is now generally accepted that all individuals do not learn in the same way and what works for one individual may not necessarily be effective for another individual. These learning differences can be thought of as learning styles or learning preferences. More specifically, a learning style can be defined as “the cognitive, affective, and physiological traits that learners exhibit as they interact with the classroom environment” (Orlich et al., 2004, p. 178). Constructivism views learning as an active process in which prior experiences are taken into consideration and inquiry and discovery are important to the act of learning. Jerome Bruner, an American psychologist, who has greatly influenced the field of education with his theory on cognition, thought of learners as active problem solvers. Bruner believed that learners were able to grasp difficult concepts if a spiraling curriculum was used as the approach in which the learner is able to use their own hypothesis and experiences to better understand the whole while still revisiting the basic ideas to help clarify and gain understanding (Smith, 2002). Bruner assisted the growth of constructivism by advocating for the use of intuition and a readiness for learning in his book, *The Process of Education* (1960). With the field of

education changing views on learning, knowledge, and processing, it is now generally understood that students possess varying learning styles, view problems in different ways, and thus have different modes of solving them. By allowing differing methods of solving the same problem, it appears that there is not always a single correct answer; rather, variations of correctness depend on how one solved the problem. These multiple variations on what is correct or right add to the controversy of what is meant by the term intelligence.

In Western societies, much debate has centered on the definition of the term *intelligence* and furthermore what criteria an individual must possess in order to be deemed as intelligent. Traditionally, intelligence has been viewed as a measurable capacity with which individuals are born. According to this view, intelligence is assessed by a short-answer test which generates a “quotient” number of an individual’s intelligence (Thirteen, 2004). According to Gardner (1983), traditionalists believe “each individual is born with a certain amount of intelligence, and that we, as individuals, can in fact be rank-ordered in terms of our God-given intellect or I.Q.” (p. 7). According to Campell, Campbell, and Dickinson (1996), the traditional view of intelligence rests on two fundamental assumptions: “human cognition is unitary, and that individuals can be adequately described as having a single, quantifiable intelligence” (p. xv). Departing from the traditional philosophy of intelligence, Gardner (1983) proposed in his book, *Frames of Mind*, that intelligence must be more than a quotient number given to an individual after administering a test including quantitative reasoning, visual processing, and memory tasks. Intelligence, as defined by Gardner, is “the ability to solve problems, or to create products, that are valued in within one or more cultural settings” (p. xxiv).

Using the definition as the framework, Gardner introduced eight criteria for an intelligence and proposed his theory of multiple intelligences (MI) which originally rested on the foundation that human beings possess seven intelligences. Those seven intelligences include verbal or linguistic, logical or mathematical, visual, bodily or kinesthetic, musical, interpersonal, and intrapersonal. Gardner later added an eighth intelligence of naturalistic (Gardner, 1999). Gardner proposed that schools and classrooms often limit their focus only on the verbal/linguistic intelligence and the logical/mathematical intelligence, leaving the remaining intelligences and learning styles untouched (Orlich et al, 2004). As a result, “six areas of intelligences are consciously depressed by schooling” due to the localized focus on verbal and mathematical tasks in U.S. classrooms (Orlich et al., 2004, p. 180). Once proposed, many educators agreed with Gardner’s notion that individuals may be intelligent in different areas (Campbell, 1990; Campbell & Campbell, 1999). After all, educators deal every day with students whose strengths and weaknesses vary depending on the task at hand. From educator’s perspectives, Gardner’s theory of MI quickly turned from a hypothesis of aptitude into a practical pedagogical tool to implement in the classroom. Gardner’s theory is focused on two essential claims. The first is that “no two people have exactly the same intelligences in the same combinations” (Gardner, 1999, p. 45). Gardner believes that intelligence is a result of genetic and environmental factors which will affect our intelligences combinations. The second essential claim is that individuals have a “unique blend of intelligences” (p. 45). The beauty and challenge of the second claim is determining how to best take advantage of the blend, especially in the educational arena. More

specifically, can MI theory help us better educate students and create improved curricular resources to reach all intelligences in the history classroom?

Statement of the Problem

“Why do we even have to know this stuff? We are never going to use it anyway!”

The preceding quote is heard from students by most history teachers at some point in the school year. The sentiment felt by many students is not a novel one; rather, it is a consistent and growing problem that has plagued history and social studies teachers for many years. Teachers often find themselves frustrated because “many students consider social studies uninteresting” (VanSickle, 1990, p. 23). Furthermore, students feel that the social studies are irrelevant to their lives and future aspirations in terms of their career (VanSickle, 1990). Research shows that over the past 20 years high school seniors have reported a “declining interest in school” (NCES, 2002, p. 4). Furthermore, teachers have begun to take notice and classify student apathy as a serious problem (NCES, 1993). Apathy in school can be broadly defined to include a “lack of goals or concern for them, assignments not turned in, poor attendance, behavioral acting out, and low parental involvement” (Moulton et al., n.d.). While research findings have been varied on what the causes of student apathy are in the social studies, there have been claims that one cause of student apathy is due to the “teacher’s failure to articulate meaningful and relevant objectives” (Hope, 1996, p. 150). It seems that students are simply tired of sitting in classrooms as passive observers while the teacher is the only active participant in the learning process (Hope, 1996; VanSickle, 1990).

Apathy is not the only common problem in the social studies. According to the National Center for Education Statistics (NCES), the lack of achievement in the social

studies classroom is becoming another common problem that educators and researchers are confronting. The National Assessment of Educational Progress (NAEP) first administered the history assessment to Grade 4, Grade 8, and Grade 12 students in the United States in 1994, and later re-administered the test in 2001 and 2006. According to the National Center for Education Statistics, more than 25,000 students were tested from 1,100 public and nonpublic schools throughout the United States. Students answered both multiple-choice questions as well as constructed-response questions (National Center for Education Statistics, 2001 & 2006). The results classified students into one of the following three categories: basic, proficient, and advanced. Although there were some increases in achievement-level performance from 1994 to 2001, most students only exhibited the basic, or lowest, achievement level defined as “partial mastery of knowledge and skills that are prerequisites for competency in U.S. history” (National Center for Education Statistics, 2001). The NAEP results indicated that 67% of fourth graders, 64% of eighth graders, and 43% of 12th graders achieved the basic level (2001). Furthermore, 18% of fourth graders, 17% of eighth graders, and 11% of 12th graders achieved the proficient level defined by the NCES as “solid academic performance” (NCES, 2001, p. 8). Last and most shockingly, 2% of fourth and eighth graders, and only 1% of 12th graders achieved the advanced level defined as superior performance (NCES, 2001).

The 2006 NAEP results do show some improvement in student knowledge of U.S. history with some groups increasing their assessment scores since 1994 and 2001. Improvements were noted in the fourth-grade performance with 74% of them performing at the basic level. Eighth graders climbed from 62% at the basic level in 2001 to 65% at

the basic level in 2006. Twelfth graders also increased in the basic level of performance climbing from 43% in 1994 and 2001 to 47% in 2006. However, the trend at the superior or advanced level remains unchanged with only 2% of fourth graders and 1% of both eighth and 12th graders reaching the most highly developed level (NCES, 2006). Even with these slight improvements, it is clear that most Americans are performing at only a basic level of understanding and knowledge in U.S. history and most are not clearly proficient or advanced in their knowledge base of historical events and significance in their own country.

The Research Problem

Based on the current state of apathy in the social studies classroom, dismal achievement results in social studies and history, and lack of engagement in the social studies classroom, it seems critical for educators to assess what is causing these negative forces to intrude on the history classroom and student learning and furthermore, how they can be alleviated in order for student achievement and motivation to progress? For this study, the theory of MI and the U.S. history textbooks are the focus.

MI theory is seen by some educators and educational researchers as a likely solution to many of the problems plaguing the classroom such as low achievement results and poor motivation. Research endeavors have shown that a MI curriculum can increase achievement and motivation within the classroom (Kosky, 2008; Mettetal, Harper, & Jordan, 1997; Strahan, Summey, & Bowles, 1996). Action research projects involving MI have shown that implementing a multimodal MI format in the classroom can help develop students' independence and responsibility, reduce discipline problems, improve academic achievement, improve cooperative learning skills, and develop new skills

(Campbell, 1991). Adding to the need for a merger of MI and textbooks, Gardner (1991) believed that for actual educational reform to take place, four factors must be targeted, with one of those being curriculum, followed by assessment, teacher education, and community participation.

With the state of Florida on the verge of adopting new instructional materials for the social studies classrooms during the 2011-2012 year, the Florida Department of Education (2008) specifically asked textbook publishers for learning strategies that “fit with the content, the objectives, and the learners” (p. 27). Described by the Florida Department of Education as “modalities,” the *Priorities for Updating Instructional Materials* (2008) requested that activities include verbal-linguistic, logical-mathematical, musical, spatial, and bodily-kinesthetic dimensions (p. 58). Furthermore, the state called for interactive tasks, group activities, manipulations/hands-on-minds-on activities, cooperative and active tasks as way to engage the active participation of students in order to help improve learning (Florida Department of Education, 2008). These “modalities” and suggested types of tasks are the MI framework. Essentially, the state of Florida seems to be advocating for the use of a MI framework in the future textbooks adopted, citing that these MI-structured tasks will help improve learning, support various learning styles, and increase active participation in the social studies.

Textbooks are predominately the most widely used instrument in the classroom (Banks, 1990; Wakefield, 2006; Zevin, 2000). They serve not only as the source of information in the classroom, but also as the planning tool driving the teacher’s lessons and units (Banks, 1990; Zevin, 2000). Textbooks are the sole source of information in social studies and history, and those content areas are not alone in their reliance on

textbooks as other subject areas rely on the textbook as the foundation of their curriculum, instruction, and planning (Banks, 1990; Zevin, 2000). According to Chambliss and Calfee (1998), “The textbook is both the subject-matter authority and the heart of the instructional program” (p. 1). According to research in the late 1990s, survey results showed that an about 74% of teachers use textbooks in class as least once per week (Wakefield, 2006). Furthermore, the same study found that 94% of history teachers use textbooks in their classroom at least once per week which was higher than any other discipline. New teachers often find themselves using the textbook more frequently than they anticipated citing that textbooks were “a reasonable way to manage, or at least survive, the demands” of the teaching profession (Ball & Feiman-Nemser, 1988, p. 415). Print materials (other than the textbook) were used less in the history classroom than any other discipline (Wakefield, 2006). In numerous research investigations, results have shown that “half or more of social studies teachers depend on textbooks as their major teaching tool” (Zevin, 2000, p. 320). Even more disheartening are the results from a national survey by the Effective Programs for Innovation in Education Institute (1976) which that found “two thirds or more of classroom time in a typical social studies classroom was devoted to reading, reviewing, and answering questions from commercial textbooks and related print material” (as cited in Zevin, 2000, p. 320). Another study showed that nearly all social studies teachers had students read textbooks at least once a week in class and as homework (Chapin, 2003). Yet another research endeavor by the Fordham Foundation found again that 80% to 90% of students read from a history textbook at least once a week, and teachers rely heavily on the textbook for content and curriculum (Leischer, 2004).

According to Orlich and colleagues (2004), textbooks “can offer useful insights into the curriculum and how to plan for and teach it” (p. 122). Tyson (1997) points out that decades of research on teachers' use of textbooks shows that the overwhelming majority use textbooks as their main curriculum guide and source of lesson plans, especially teachers at the elementary school level who are responsible for five or six subject areas (p. 6). More specifically, the teacher’s edition of most social studies and U.S. history textbooks is filled with activities and ideas for the instructor to implement in the classroom experience. These annotated resources become the path for many instructors to teach the social studies curriculum. Textbooks and their accompanying worksheets comprise 75% to 90% of the learning that occurs in our nation’s classrooms (Armstrong, 2000a). According to Armstrong (2000a), this “worksheet wasteland” perpetuates three types of passive learners: (a) those who appear successful because they can comply with the rules of the game, (b) students who are deemed underachievers, and (c) those whose own unique ways of learning prevent them from succeeding in such an environment are labeled learning disabled or attention deficit hyperactivity disorder. Hence, the impact of the textbook is still very significant in today’s classrooms.

A major problem with the U.S. history textbook is the organization and quality of the content and activities that lies within the pages. According to Zevin (2000), “Textbooks reduce complex events and theories to manageable proportions, but they also eliminate much of the opportunity for students to think for themselves, to see how conclusions are drawn, and to make judgments about history” (p. 321). In reducing the historical content to names, dates, and basic memorization, students lose their ability to become active participants in the classroom and are subjected to passive modes of

instruction. On the other hand, it is important to note that textbooks do serve a purpose in the U.S. history classroom by summarizing large amounts of information into well-organized facts, yet the purpose they serve also contributes to the problem they create (Zevin, 2000).

Furthermore, teachers feel that textbooks are an important tool in organizing classroom activities, providing for instructional benefits, and helping with lesson ideas by providing maps, worksheets, and posters (Schug, Western, & Enochs, 1997). By their very nature, the function or current use of textbooks meets the verbal/linguistic intelligence criterion because it guides content that is intended to be read, while at the same time creating another problem for U.S. history textbooks: that of MI and individual learners. Are the tasks found in the U.S. history textbooks using a MI style approach to reach all learners?

It is often found that the five nontraditional intelligences of spatial, musical, kinesthetic, interpersonal, and intrapersonal are overlooked in the educational arena, according to Campbell (1991). Yet, Campbell believes that “if we can develop ways to teach and learn by engaging all seven intelligences, we will increase the possibilities for student success.” (p. 2). Armstrong (2000b) states, “during the typical school day, all students should be exposed to courses, projects, and program that focus on developing each of their intelligences, not just the standard verbal and logical skills that for decades have been exalted about other domains in U.S. education” (p. 82). It appears that a major problem with U.S. history textbooks lies in the premise that not all intelligences are being targeted. Furthermore, the lack of focus on all intelligences could be a leading

contributor to poor student performance and low achievement results because students with unique intelligences are often overlooked and ignored.

According to the National Center for Education Statistics (2006), students in Grades 4, 8, and 12 reported reading material from a textbook every day which was the highest percentage of any in-class activity in history classrooms. Additionally, trailing behind the reading tasks on a daily basis included discussing the material and writing short answers to questions. These statistics show that most students in history classrooms across the United States are involved in linguistic or verbal tasks the majority of the time. What about the other intelligences? Although many educators may have recognized the importance of implementing MI theory into the curriculum, the textbook and its prescribed activities often seem to appeal to only one intelligence: linguistic intelligence. Students whose learning strengths are not linguistic in nature may find themselves unable to understand and appreciate new content and concepts. As research has suggested, many teachers use the textbook activities as the key source for planning lessons and structuring curriculum. Hence, student performance, motivation, and engagement are all being influenced through the use of these textbook-based activities. The teacher's edition of the textbook differs from that of the students by an increase in the number of activities provided. The teacher's edition of the text often has a *wraparound* that contains three to seven additional activities for a teacher to use in engaging students in a particular topic or chapter of focus. Research suggests that teachers use the teacher's editions of textbooks for the administration of pre-planned lessons using the commercially packaged editions quite extensively for planning and instruction (Moulton, 1997). By looking and examining the activities that are found in the teacher's edition of U.S. history textbooks,

one might be able to determine whether the textbooks being used by secondary teachers are presenting MI tasks in order to offer differentiated instruction so that students of all intelligences can be successful.

Purpose of the Study

The purpose of this study was twofold. The study utilized a rubric for measuring the presence of MI-structured tasks in the teacher's editions of four 11th grade U.S. history textbooks. The tool was created first giving the researcher the capability to analyze the types of tasks found within the teacher's editions of the history textbooks. Through the analysis of the types of tasks, the second purpose allowed the researcher to determine what types of MI-structured tasks were being offered in the teacher's editions and to distinguish what changes have occurred from early textbook editions to more recent textbooks in use.

Throughout the United States, the history classroom appears to be in turmoil. The National Assessment of Educational Progress (NAEP) results in the area of U.S. history show less than favorable progress for America's fourth, eighth, and 12th graders (National Center for Education Statistics, 2001). Many teachers feel that students are not tuned into social studies and students find the content boring and irrelevant (Hope, 1996; VanSickle, 1990). Young people are not engaged in classroom activities as often as hoped (Wakefield, 2006; Zevin, 2000). The question becomes: How can the history classroom and the student become motivated, challenged, and engaged in his or her own learning? With action research projects showing that MI-inspired curriculum is improving academic performance and raising student motivation in the classroom, it is possible the merger of a MI curriculum with the availability of textbooks could be the

answer to some of the problems that the field of history is facing (Campbell & Campbell, 1999; Hickey, 2004; Kosky, 2008).

Significance of the Study

Because of the continued dependence and reliance of history educators on the textbook as the primary means of instruction, planning, and content engagement, it is important to examine the quality of the teacher's edition of these history textbooks. Although there is an increasing body of research surrounding MI and its practical implications, there have been few studies to examine the presence of these concepts in the teacher's editions of history textbooks. This study may contribute to a growing body of research on MI as well as add to a large amount of research that currently exists on the quality of history textbooks focusing more specifically on the teacher's edition of the texts. With U.S. students receiving less than favorable results on history assessments and a growing sense of apathy in history classrooms around the United States, it appears that the implementation of a MI curriculum could help revive the history classroom and student interest on the subject. More specifically, the U.S. history teacher's edition of the textbook could hold the key to improving student performance and motivation. In addition, the study may contribute to the textbook selection process in states and individual districts by informing educators and the field about the instructional tasks found in the selected textbooks.

With the creation of a valid and reliable rubric that can accurately measure the types of MI activities found in the teacher's edition of U.S history textbooks, it is hoped that the tool will be made available to other researchers and interested parties so that

other data can be collected from other textbooks in order to greater understand the influence of MI theory on U.S. history textbooks.

Theoretical Framework

For the purposes of this study, Gardner's MI theory was used as a theoretical framework articulating the research problem. First posed in the early 1980s, Gardner deviated from the traditional views of intelligence at the time and suggested that intelligence was the capacity for problem solving in content-specific environments. More specifically, he first defined intelligence as "the ability to solve problems or to create products that are valued within one or more cultural settings" (Gardner, 1999, p. 33). Later, he refined the intelligence definition by viewing intelligence as "a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture" (p. 34). Viewing intelligence as a potential rather than a quantifiable clearly distinguished Gardner's MI from the traditional view of intelligence and its singular nature. His holistic approach to intelligence is much more broadly defined than the traditional paper-and-pencil IQ (intelligence quotient) tests (Stanford, 2003). The original seven intelligences proposed by Gardner are linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal (Gardner, 1983). Later Gardner added the eighth intelligence, naturalist, and has also conceded that there is evidence for a possible spiritual intelligence and existential intelligence (Gardner, 1999). According to Gardner's (1999) framework, two essential claims exist within MI theory: 1) "the theory is an account of human cognition in its fullness and 2) we each have a unique blend of

intelligences” (pp. 44-45). Thus, it becomes the job of the individual to seek out which intelligences are present within and to minimize it or revel in it.

Using a set of eight criteria to ground his MI in, Gardner used the criteria to measure whether a talent was actually an intelligence. The first two criteria are grounded in the biological sciences: the potential of isolation by brain damage, and an evolutionary history and evolutionary plausibility. From logical analysis, the third and fourth criteria include an identifiable core operation or sets of operations and susceptibility to encode in a symbol system. From developmental psychology, the fifth and sixth criteria include a distinct developmental history, along with a definable set of expert end-state performances, and the existence of idiot savants, prodigies, and other exceptional people. The final two criteria stemming from psychological research include support from experimental psychological tasks, and support from psychometric findings. Using the criteria as the backbone for MI , Gardner (1999) proposed the existence of seven separate human intelligences.

Linguistic and logical-mathematical intelligences were the first two which are traditionally valued in the school setting. Linguistic intelligence consists of the ability to think in words, both written and spoken, and to use language. In the job market, authors, lawyers, writers, and newscasters exhibit high levels of linguistic intelligence. Logical-mathematical intelligence consists of analyzing problems logically, calculating, quantifying, and carrying out mathematical operations. Scientists, mathematicians, computer programmers and engineers demonstrate high levels of logical-mathematical intelligence.

The next intelligences are often notable in the field of arts, but can be used in a variety of experiences and environments. These include musical intelligence, bodily-kinesthetic intelligence, and spatial/visual intelligence. Possessing a skill in performance, composition, appreciation, and sensitivity to pitch and tone encompass musical intelligence with musicians, composers, and conductors exhibiting high levels of intelligence. Bodily-kinesthetic intelligence involves using one's body to manipulate objects, solves problems, or fashion products. Craftspeople, athletes, dancers, and other technically oriented professionals possess high levels of kinesthetic intelligence. Spatial/visual intelligence makes it possible to think in three dimensional ways, to recognize and multiple patterns and space. Sculptors, architects, graphic artists have the ability to navigate oneself with spatial/visual intelligence.

In the original list, the final two intelligences were the personal intelligences of interpersonal and intrapersonal intelligences. Interpersonal is the capacity to work and interact with others successfully by understanding motives, intentions, and desires of others. Salespersons, teachers, religious leaders, and politicians need to possess high levels of interpersonal intelligence. Intrapersonal intelligence denotes the ability to understand one's self and use the information in planning and directing one's life. Psychologists, theologians, and philosophers often possess strong intrapersonal intelligence.

Added later, naturalist intelligence refers to the ability to recognize and classify patterns in nature. People with naturalist intelligence are often thought to be in tune with nature, exploring the environment, and learning about other species. Naturalist intelligence also denotes the ability to be highly aware of small changes to their

environment. Botanists, conservationists, farmers, biologists, and environmentalists often possess strong naturalist intelligence.

Research Questions

The goal of this research was to shed light on the teacher's editions of U.S. history high school textbooks by developing a tool to measure the availability and presence of MI structured tasks in those particular texts. The central question to be addressed in this study was: Are the textbooks being used by teachers in secondary U.S. history classrooms presenting tasks promoting the MI framework in order to offer differentiated instruction to all students? More specifically, the following questions were investigated:

1. To what extent do the annotated teacher's editions' recommended activities in four widely adopted high school U.S. history textbooks reflect a multiple intelligences framework?

2. Are certain multiple intelligences more likely or less likely to appear in the teacher's editions' recommended activities of four widely adopted high school U.S. history textbooks?

3. Has the number of multiple intelligences tasks recommended in the teacher's editions of four widely adopted high school U.S. history textbooks changed between the mid-1990s editions and the more recent mid-2000s editions?

Due to the use of the chi square goodness of fit test for the research questions, it was hypothesized that there were no differences between the two values found in research question one. Essentially the null hypothesis predicted that there would not be any difference between multiple intelligences-directive tasks and the nondirective tasks.

Similarity in research question two, a chi square goodness of fit test was used, and again, it was hypothesized that there were no differences between the categories of intelligences found in the textbooks. For example, it was hypothesized that there were no differences in the number of linguistic tasks when compared to logical tasks. For each category, it was assumed that there was a 1:1 predicted ratio. Last, it was hypothesized that there were no differences between the 1990s editions and the more recent mid-2000s edition in terms of the number of multiple intelligences tasks found in each.

Method of the Study

The first important step of the study involved the selection of the textbooks to be reviewed and the content/tasks to be analyzed. Once the textbooks were selected, the researcher began the developmental phase of creating the rubric to measure MI-structured tasks. The researcher initially designed a rubric of MI-directive tasks and began to categorize tasks found in the teacher's editions into single or multiple categories depending on what the teacher and the student were asked to perform. The researcher continued to preliminarily analyze tasks found in the teacher's edition of the chosen textbooks and the Pinellas County Essential Learnings (2004) for the 11th grade served as the guide for selecting specific content, chapters, and tasks for analysis. The Pinellas County Essential Learnings are the essential content that should be taught in a respective grade level and sequence. These essentials learnings were created by Pinellas County educators and are based on the Florida Sunshine State Standards which are supported by national standards and current educational research (Pinellas County Schools, 2011).

Once the tool was developed, the third phase of the study involved the rubric being expert-checked to determine its consistency. During this phase of the study the

researcher maintained an audit trail to help lessen the limitations of the study and provided clarity and insight on what decisions were made and the rationale behind those decisions.

The fourth phase of the study used the rubric as the tool for analysis of the selected textbooks and investigating the contents. The researcher analyzed the tasks found within the textbooks to determine its MI category. Data was collected and later used in the final phase in order to answer the prescribed research questions.

The fifth and final phase of the study involved turning the data collected into information. The researcher looked for themes and patterns that emerge from the curriculum in terms of MI usage. The researcher also compared themes and patterns to those of an earlier adoption year to see if MI usage in textbooks shifted over the course of time.

Assumptions and Definitions

A major assumption of this study was that secondary U.S. history teachers use the suggested activities of the annotated teacher's edition textbook as part of their regular classroom activities. As stated earlier, research indicates that history teachers do use the textbook as part of their curriculum planning, organization, and content knowledge (Banks, 1990). Furthermore, research suggests that new teachers, in the elementary arena in particular, tend to use textbook programs in spite of what they had been taught during the teacher preparation classes (Ball & Feiman-Nemser, 1988). Studies have suggested that textbooks structure at least 75% of classroom instruction and textbooks and their accompanying teacher guides "provide a road map from which few teachers make major detours" (Tyson & Woodward, 1989, p. 124). In a review of the literature on teachers'

use of textbooks, Moulton (1997) found that many factors account for the use of the textbook including beliefs about school board support of the textbook, parent pressure, peer pressure, beliefs about what school should look like, ease of use, lack of other materials, and responsibility to plan and teach multiple subjects. Research suggests that teachers rely on textbooks as their major source of planning instructional activities (Moulton, 1997). From those research findings, it is assumed that teachers are using the suggested activities in the teacher's edition of the U.S. history textbook to organize lessons and plan classroom activities. As noted in Zevin (2000), "Many teachers tend to follow the textbook as their main source of ideas and material without much enrichment or supplementation from other sources" (p. 320). The textbook becomes a manual for teaching which guides teachers through the content, supplemental activities, and content planning with virtually any effort on the part of the instructor (2000). Additionally, it is believed textbooks may be the most commonly used instructional resources especially for newer or inexperienced educators who "might be more prone to rely on the text for the scope, sequence, and content in their teaching" (Cruz, 2002, p. 327). Social studies literature and research, further, finds that teachers "believe in the authority of the textbook" (Thornton, 1991, p. 243). Teachers seem to be using the textbook, specifically the teacher's edition, to assist in curricular planning, classroom activities, and learning goals.

For the purposes of this study the following definitions are based on those provided in *Intelligence Reframed* (1999) by Howard Gardner were used. However, it is important to note that these are based on his work and operationalized to meet the needs of this study.

Bodily/Kinesthetic: Ability to use the body to solve problems with a task and tasks that are grounded in more “real-life” activities; Tasks may include performing a skit, role-play, or simulation or cooking a dish from a native country.

Combined-2: A task in which two MI tasks are found within the task.

Combined-3+: A task in which three or more MI are found with the task.

Interpersonal: Ability to work with other people; Tasks may include working in pairs, partners, groups, cooperative learning.

Intrapersonal: Ability to understand one’s self; Tasks may include writing a personal reflection, engaging in self-reflection, what would you do type questions, how would you feel, how would you react, how would you decide?

Logical/Mathematical: Ability to carry out problems in a logical manner; Tasks associated with logical/mathematical intelligence may include timelines, listing in chronological order, bar charts, pie charts, or graphs; students may also be asked to use an almanac to find percentages or perform mathematical tasks.

Multiple Intelligences Directive Task: An activity or job in which the teacher is requiring the student to do a specific job, to answer questions, to perform a behavior or to produce a product. The important function is that the student is being asked to produce something in terms of his or her learning. An example is explaining to students that the Indian Removal Act affected peaceful Native American groups. Ask the students to assume viewpoints of the members of the Southeastern tribes and write letters to Andrew Jackson. From this example, one can see that the teacher is requiring the student to perform a written task.

Musical/Rhythmic: Ability to appreciate and recognize musical patterns; Tasks may include writing an original song, listening to a musical composition, analyzing song lyrics, searching for songs, performing a musical piece.

Naturalist: Ability to observe, understand, and organize patterns in the natural environment; tasks may include keeping a notebook, organizing collections, observing nature, and collecting data.

Nondirective Task: An activity that does not specifically ask the teacher to perform a job and in turn the student cannot perform a task because the teacher was not asked to do so. A nondirective task might appear as a single question in the teacher's wraparound section of the textbook. An example is asking, "Who were the 'five civilized tribes' and where did they live? What was the Indian Removal Act of 1830?" From this example found in *The Americans* text (2007), there were simply five questions found in the wraparound text. It was not stated that the teacher was to ask these questions to the students, nor was it suggested that the students were to do anything with the questions. Due to its nonspecific nature, tasks such as these were categorized as a nondirective task.

Verbal/Linguistic: Ability to read and/or write; producing language, reading, writing; Tasks may include reading, discussion, writing a letter, research a specific topic, define a term, explain a concept, ask about a concept or idea, analyze a concept, create an outline, review a primary source document, answer the section review questions, give a presentation.

Visual/Spatial: Ability to develop a mental and/or literal image or chart or organizer. Tasks may include analyzing a photograph, analyzing a cartoon, reviewing a map, creating a chart, completing a graphic organizer.

Limitations/Delimitations

Although much research on MI theory deals with possible improved achievement scores or increased motivation, this research was intended to focus on the curriculum and MI tasks found in the teacher's editions of four 11th grade U.S. history textbooks. Its intent was not to examine the effectiveness of MI in the classroom; rather, it sought to look at the availability of MI tasks in the textbook-prescribed curriculum. It also sought to identify changes or fluctuations in MI tasks over the course of time by analyzing four textbooks that have been revised over an allotted time period. Because the researcher developed her own tool to measure the quantity and presence of MI-structured tasks, there was a possibility that the researcher may unintentionally influence the outcome of the study. There was an audit trail as well as expert-checking of the rubric to lessen the likelihood of the unintentional effects.

Because the researcher wanted to use the same textbooks with emphases put on the grade level, content area, and authors of the book, there was a possibility that the results of the study may be limited and specific to certain textbooks and content areas. It may be difficult to make generalizations about all U.S. history textbooks based on the outcomes of the study as specific textbooks were analyzed which may not be representative of the entire textbook market. However, in order for the results to be valid and reliable, the researcher felt it was necessary and justified to be selective about the textbooks analyzed in terms of consistent authorships and similar publications.

Summary

Since the inception of Gardner's (1983) MI theory, educators have been captivated by the likelihood that all students learn differently and the role of the educator

has shifted from an authority on content knowledge to a facilitator of student learning. Gardner's theory gives educators hope that all students can learn if material is presented to them within their preferential intelligence(s) using a variety of instructional strategies. Textbooks are highly used segments of instructional materials in the classroom today as teachers rely on them for content knowledge, planning strategies, and activity guides. Textbooks should be designed so that all student learners are engaged and all intelligences are being met. This expectation can occur through the meeting of textbooks and MI. The study sought to determine if the meeting between U.S. history textbooks and MI has, indeed, occurred.

Chapter 2: Review of Related Literature

Due to the general acceptance of Gardner's (1983) theory of MI, an influx of literature has developed on what the MI classroom should look like and how teachers should implement the theory into practice in their history classrooms. Gardner's theory "has swept the educational system across the United States like a grassroots movement" (Smith, Odhiambo, & El Khateeb, 2000, p. 3). Interestingly and ironically, far fewer writings exist on why Gardner's MI theory works or if the theory is actually an effective tool for increasing student interest and academic success in the classroom. The writing that has been published has shed positive light on teachers' feelings about the impact of MI in the classroom, while only few researchers have found important impacts on the history classroom since the inception of MI (see, for example, George, Mitosky, & Peter, 2000; Kosky, 2008). Furthermore, a tool has not been devised for measuring the MI activities that are present within the curriculum focusing specifically on the textbook.

A growing body of literature has been aimed at the "how-to" implementation of MI in the curriculum. An increasing number of teachers are turning to the MI framework in order to adapt lessons, reach more students, and hone in on students' strengths. Many teachers are abandoning the old-age classroom which is dominated by the teacher lecturing, writing on the board, and passing out worksheets. In the MI classroom, the teacher is continually changing his or her mode of presentation by targeting different learners with the same lesson (Stanford, 2003). MI theory allows teachers to increase

their methods of teaching while reaching more students and allowing students to grasp and understand knowledge in new and unique ways (Stanford, 2003). While no prescribed method for implementing a MI curriculum has been developed, the hope is that MI can “aid in a variety of missions from engaging more children to encouraging deeper understanding to preparing students for work” (Gardner, 1997, p. 21).

Theory of Multiple Intelligences

Departing from more traditional views of intelligence, Gardner (1983) proposed in his book *Frames of Mind* that intelligence must be more than a number attached to an individual after prescribing a short answer test. He proposed his theory of MI which rests on the foundation of seven intelligences that human beings possess. Gardner believes that individuals have different mental strengths and solve problems in a variety of different fashions depending on those strengths. Furthermore, those mental strengths translate into an array of different learning styles for individuals. The original seven intelligences are linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, and intrapersonal. More recently in his book *Intelligence Reframed*, Gardner (1999) proposes the existence of two new intelligences: naturalist and spiritual-existential intelligences. Gardner formulated his theory after performing interviews and brain research on hundreds of individuals ranging from stroke victims, prodigies, autistic persons, and idiot savants (Thirteen, 2004).

The first two intelligences, linguistic and logical-mathematical, are those that have been traditionally valued in schools in Western cultures. Traditionally, one is thought to be a good student if one possesses high linguistic and/or mathematical skills. Linguistic intelligence involves a mastery of language, both the spoken and written word.

For example, language is used to remember information as well as a means to accomplish goals. Logical-mathematical intelligence involves the ability to think analytically, logically, and deductively (Brualdi, 1996).

The next three intelligences are noticed more in the realm of the arts. Musical intelligence involves a proficiency in the composition and an appreciation of musical patterns and rhythms. Bodily-kinesthetic intelligence is the ability to use one's body or body movements to solve problems. Spatial intelligence involves the aptitude to create mental images and manipulate patterns to solve problems (Gardner, 1999).

The last two intelligences are known as the personal intelligences. Featured within the personal intelligences are the interpersonal intelligence and the intrapersonal intelligence. Interpersonal intelligence is skill of being able to work well with others by understanding other's motives and desires as well as being able to communicate with them. The intrapersonal intelligence involved the ability of one to understand one's own feelings and desires and furthermore to use this information to effectively regulate one's life (Gardner, 1999).

The most recently added intelligence is that of naturalist intelligence. Naturalist intelligence involves the ability to make distinctions between objects as well as classify numerous species (Truab, 1998). Gardner has toyed with the notion of adding a ninth intelligence, spiritual-existential, to the list, but has yet to commit to the endeavor. According to Gardner (1999), he finds the existential intelligence "perplexing enough and the distance from the other intelligences vast enough to dictate prudence---at least for now" (p. 66).

A set of eight criteria was used in order to define intelligence and each one must pass all eight criteria in order to be successfully added to the MI list. These are (a) each of the intelligences can potentially be isolated by brain damage, (b) each of the intelligences exists in exceptional people, (c) each of the intelligences has a process of developing during normal child development and has a peak end-state performance, (d) each of the intelligences has a set of identifiable operations, (e) each of the intelligences contains an evolutionary history, (f) each of the intelligences has been tested using various experimental psychological tasks and psychometric findings, (g) each of the intelligences can work without the other being present, and (h) each of the intelligences can be symbolized or has its own unique symbol or sets of symbols (Gardner, 1983).

Researchers (Traub, 1998; Traub & Gardner, 1999) find fault with Gardner's multiple intelligence theory due to its usage of the word "intelligence." Prior to Gardner, intelligence was viewed as a "single entity that can be measured with fairly great accuracy" (Traub, 1998, p. 20). However, Traub contended that "Gardner has not used this terribly loaded term, intelligence, simply for effect; he has furnished a set of objective criteria that may be used to distinguish it from a mere aptitude" (Traub & Gardner, 1999, para 35). Many psychometricians still subscribe to this thought that intelligence can be measured in terms of vocabulary, spatial thinking, memory exercises, and the ability to solve puzzles and draw analogies. In his own book, *Intelligence Reframed*, Gardner (1999) postulated that intelligence "refers to a biopsychological potential of our species to process certain kinds of information in certain ways" (p. 94). Unlike psychometricians, Gardner approached the realm of intelligence from a completely different perspective. His own theory combines scientific research with

personal experiences in order to compose his beliefs. Hence, some psychometricians believe that his use of the word intelligence in his paradigm is no more than Gardner's own hunches and opinions (Traub, 1998).

However, those in the educational world have latched onto Gardner's theory of MI because it resonates with many teachers' explanations of how students learn differently. Gardner sees intelligence as a set of skills that allows individuals to solve problems rather than a cognitive capacity that an individual is born with (Thirteen, 2004). In a classroom of students, each student possesses different strengths and learning styles to solve a problem or a task. For many years, it has been commonplace in the United States for children to solve problems using their logical or mathematical skills, but it is possible that many students would excel in the classroom and grasp a greater understanding of the school content if they were allowed to solve problems and learn curriculum based on their predominant and strongest intelligence.

Critics of multiple intelligence theory fault Gardner's use of the word intelligence because they view his eight intelligences as talents or skills (Morgan, 1996; Traub, 1998). Another common criticism of MI theory is that it lists abilities that educators and psychologists have acknowledged previously, and feel its implementation in the classroom is impractical due to overcrowding of students and lack of resources available (Thirteen, 2004).

Traditionally, intelligence has been viewed as a measurable capacity that individuals are born with. The traditional view of intelligence is assessed by a short-answer test which generates a "quotient" number of an individual's intelligence. Gardner feels that short answer tests encourage rote memorization in lieu of deeper understanding

or mastery of a set of skills. The more traditional view of intelligence assumes a “you either got it or you don’t” motto in which intelligence is fixed and an individual must succumb to the intelligence quotient that one is born with. It is a stagnant and unchanging ability that is usually measured in terms of logical and linguistic skills. Gardner posed that all human beings possess a degree of the eight intelligences, but individuals have a unique profile of those eight intelligences. The ability to improve in areas of intelligences is found in Gardner’s model (Thirteen, 2004). Gardner did warn that “some people will improve in an intelligence area more readily than others, either because biology gave them a better brain for that intelligence or because their culture gave them a better teacher” (as interviewed by Checkley, 1997, p. 11).

Application of multiple intelligences theory in the classroom. Educators, predominately classroom teachers, find Gardner’s theory as factual and effective simply because they observe children or adolescents on a daily basis and view firsthand the differences in personalities, learning styles, and intelligences. Many classrooms and schools, as a whole, have adopted a MI curriculum and have attempted to become MI schools. MI is not a universal set of teaching techniques that can be easily applied into the classroom; rather, MI theory is more of an attitude toward learning that involves creating lessons that are applicable to the various intelligences posed by Gardner (Stanford, 2003).

The traditional classroom is one that is often mundane, predictable, teacher-centered, and textbook-based. Often the teacher assigns reading, the student reads and complete questions, and then turns in the assignment for a grade. Later, the student will be assessed by a paper-and-pencil test asking multiple choice questions. The student is

left as a passive participant in the classroom. The MI classroom deeply contrasts from that of the traditional classroom. Both the teacher's and students' roles are dramatically different. In a MI classroom, the teacher prepares lessons that involve hands-on activities, using rhythms and raps, cooperative learning activities, and visual demonstrations to help students understand concepts and promote an enthusiasm for learning.

Although Gardner's work on MI is simply a theory, many have begun to put the theoretical framework into practical application. According to Stanford (2003), "MI theory provides an avenue for accomplishing what good teachers have always done: Reach beyond the text to provide varied opportunities for students to learn and show evidence of learning" (p. 82). MI theory allows teachers to understand more clearly why certain instructional methods work well for some students yet not for others. According to MI theory, every individual possesses some level of the eight intelligences and the intelligences rarely operate independently of each other. Instead, the intelligences complement one another as human beings solve problems to develop certain skills. The theory assumes that all intelligences "are needed to productively function in society" (Brualdi, 1996, p. 3). If all intelligences are needed to produce effective citizens of society, then teachers must look at all intelligences as equally important and depart from the traditional epistemology that verbal and mathematical intelligences are the most decisive.

Several curricular formats are being used to implement MI theory into the classroom. Some teachers employ MI through planning lessons that connect all eight intelligences while others dedicate time in the class each day to music or the arts. In

terms of lesson planning, teachers are beginning to think outside of the box during instruction on subjects such as mathematics. Students are being asked to become more active and learn concepts in a kinesthetic manner in departure from the traditional paper and pencil-seated exercises. An elementary school teacher, for example, may set up MI-specific learning stations in the classroom in which students rotate through the day that offer a variety of projects and ideas (Campbell, 1997). Simulations and presentations may be used as forms of instruction and assessment in several curricular formats (Thirteen, 2004). Some educators are giving students the decision-making ability to select what ways they learn the best so that teachers are reaching all intelligences in their instruction.

According to Campbell (1997), secondary educators can easily adopt MI practices in their classrooms by “adding a stronger arts program, adding learning stations in their classrooms or bringing in community experts in various disciplines to mentor their students” (p. 16). For example, some Montana schools teach English and language arts through the use of visual and performing arts. Units begin with open-ended questions that are intended to guide students in their studies and research (Campbell, 1997). Another example lies in an inner-city Seattle high school that participated in a MI week on international awareness. Lessons were created with an international flair with literature teachers introducing short stories from different cultures, business education teachers discussing international trade issues and social studies teachers comparing governments and civil rights issues around the world (Campbell, 1997).

From a MI approach, assessments need to depart from the traditional paper-and-pencil tests to more performance based assessments. Dependent on the student’s learning

strengths are a variety of approaches to assess skills and knowledge. Assessment could vary from a culminating project, portfolios, reflection logs, or a cooperative group assignment. Students should be able to demonstrate critical thinking skills, make generalizations of what they have learned, provide examples, make personal connections between their life and their learning and lastly apply their knowledge to new or upcoming learning opportunities (Campbell, 1997). Assessments should be focused on “reaching the learner’s full potential” (Stanford, 2003, p. 84). Unlike the traditional classroom, a MI classroom should view instruction and assessment as “partners” with each being important and critical for student success (Stanford, 2003). The *History Alive!* Curriculum uses MI assessments which “encourage students to use various intelligences to demonstrate their understanding of key concepts while preparing them for standardized tests” (Teachers Curriculum Institute, 2011, para 21).

Even Gardner himself has been involved in classroom projects that attempt to implement MI theory into practice. Unlike many teachers, Gardner is more cautious to view MI theory as the cure for ineffective instruction or unmotivated students. Gardner (1997) suggested that educators do not fully understand MI theory at first and are not capable of implementing the theory initially. Gardner (1997) said that MI theory is “more radical than most educators initially appreciate. . . MI may be appealing, but it is not for the faint-hearted, nor for those in search of a quick fix” (p. 20). To implement MI into a classroom is not meaningful unless an educator has clearly stated their educational goals and values according to Gardner. Once the goals have been established, the teacher needs to answer the question: “Can MI be useful in pursuit of this goal? If so, how?” (Gardner, 1997, p. 20). Because brain-based research is ever-changing and the

understandings of intelligences are varying, Gardner feels that the MI classroom should be one of growth and constant modification. MI is never complete and therefore, “it is always in formation” (Gardner, 1997, p. 21). Due to those constant changes, Gardner does not advocate for one official Gardner or MI approach to schools. MI teachers must firmly believe in their own educational goals and values first before undertaking the task of implementing a MI curriculum. They must feel that intelligence is malleable instead of a fixed trait that an individual innately possesses. Convincing young children and adolescents that intelligence is malleable will allow them to pursue personal goals and focus on the learning outcome rather than the academic grade (D’Auria, 1999).

In numerous interviews and writings, Gardner warns teachers against trying to fit all intelligences into each and every lesson plan due to the impractical nature of trying to do so (Gardner, 1999; Latham, 1997). Proponents of MI theory need to embrace three principles when implementing an MI focused curriculum: (a) cultivate skills that are valued in the community and society, (b) approach new concepts in a variety of ways, and (c) personalize instruction as much as possible (Latham, 1997).

Multiple Intelligences Research

While many classroom teachers would be quick to say that MI theory works, the true test of any theoretical framework are the research findings that support the theory. Just as other intelligence epistemologies have been put to the test through research, MI theory must also pass the test in order to be accepted in the academic realm as a noteworthy contribution in the field of education and educational psychology. It is an effortless feat to find journal articles and books on how to implement MI theory into practical applications. However, the research to back up these practical applications is

much more difficult to find especially in the area of history. More surprisingly is there seems to be no instrument available to measure MI tasks in the textbook or any curricular format.

Researchers have looked at a variety of aspects concerning MI, ranging from the effectiveness of MI in relation to test scores to improving student motivation through MI theory to enhancing student's self esteem through the use of Gardner's MI. For example, Rosenthal (1998) found that fourth-grade students may exhibit raised self-esteem when MI theory is applied to the classroom for a full year when compared to another classroom that MI theory was not used. Wiseman (1997) investigated "whether significant differences existed in the MI of high school students enrolled in theoretical science courses compared to the MI of high school students enrolled in applied courses" (p. 72). Wiseman (1997) found that most students involved in her research were enrolled in a science course that complemented their MI profile, and furthermore, there were significant differences in the MI profiles for students involved in theoretical science classes versus those students involved in applied science courses.

But, of course, the question remains: Does the implementation of MI theory into practical applications in the classroom actually work? Is MI an effective strategy for academic success? Is MI an effective tool for increasing student motivation?

Before looking at the research surrounding the effectiveness or ineffectiveness of MI theory, there are some clearly defined reasons as to why educators choose to adopt MI curriculum or lesson plans in their classrooms. Kornhaber (2004) devised a list of why educators begin to use MI in the classroom:

1. MI theory validates what teachers know or see on a daily basis. That

is, all students have different strengths and weaknesses and learn differently.

2. MI complements existing beliefs and philosophies such as

constructivism and progressive educational opinions.

3. Teachers are already using some practices that coincide with MI theory such as

hands-on learning and thematic units.

4. MI provides an outline for organizing teachers' practice.

5. Teachers believe that MI help extend their practice (pp. 68-69).

Unfavorable results related to multiple intelligences. One such study by Smith et al. (2000) attempted to assess the impact of Gardner's MI theory on students' academic successes in 10th-grade English, mathematics, social studies, and science classes. The two critical questions of the study were (a) Can MI be shown to exist via factor analysis? and (b) What are the MI typologies of the very successful, successful, unsuccessful, and very unsuccessful students? There were 41 participants who participated in four surveys conducted in the social studies, mathematics, language arts, and science classrooms. The results first led the researchers to revamp Research Question 1. The assumption was that MI theory "would be predictive of students' perceptions of their cognitions in the classroom" (Gardner, 2000, p. 10). The data led to the rejection of Gardner's MI by the students which forced the new research question: Are students' meta-cognitive awareness of their learning actions predictors of their grades? The analysis found metacognitive awareness was significantly related to student learning outcomes. Furthermore, the research supported the belief that students have preferential mode of learning or a dominant learning style. However, "in contradiction to an assumption of MI theory, these meta-cognitive actions are not stable across subject areas" (Gardner, 2000, p. 12).

Further investigation revealed the differences among the subject areas. In language arts, the very successful students were those who imitated the teacher's preferred learning style. Once a student attempted to take control of their learning and deviate from the teacher's learning style, lower academic grades were the result. Mathematics showed similar results in that once a student became metacognitively aware of their learning style and actively used that cognition, the result was lower academic scores. If the student were to return back to the teacher's preferred learning style, then academic grades increased. Science students who were deemed successful were "actively constructors involved in the learning process" (Smith et al., 2000, p. 15). Successful social studies students were "reflective constructive" (p. 16). They were able to cooperate with others, express themselves in movement, and manipulate images while unsuccessful students were more "social constructive." The unsuccessful students were aware of the environment of the class and ironically, their learning style did not match that of the instructors. Hence, the researchers found that MI theory was unable to predict or correlate relationships between students' MI actions and learning outcomes. Furthermore, the researchers found that the teacher's actions were the central factor in determining success.

Gohlinghorst and Wessels (2001) implemented a program into two fourth-grade classrooms whose goal was to improve student knowledge of the social sciences and applications in the real world through the use of MI. The program was implemented in a Midwestern school after finding a lack of student interest in social studies through students surveyed at the fourth-grade level and poor performance on the State Standard Achievement Tests. The objective of the project was to use various teaching strategies

and to incorporate MI into social studies units which would hopefully enhance and increase student performance. The researchers administered surveys at the beginning of the school year, implemented the MI-based curriculum, and participated in observations and posttests to assess the results. Using the comments of the students and surveys as indicative of the results, the researchers found that regardless of the use of MI in the classroom, fourth-grade students still ranked social studies as their least favorite subject after the 16-week intervention. Surveys showed that students' interest in social studies did slightly rise during the intervention, but overall students continued to rank the subject as their least favorite.

Favorable results related to multiple intelligences. Other research contradicts the findings of Gohlinghorst and Wessels (2001) through showing that student interest can be increased with the use of MI in the social studies classroom. George and colleagues (2000) began their research after finding that students in three Illinois elementary schools were uninterested in the subject area of social studies and the disinterest was growing as the children progressed through school. These researchers cited numerous probable causes for the students' aversion to social studies including a lack of real-life connection between the content and student, insufficient planning time for the teacher to create interesting lessons, and lack of hands-on materials. Because they felt that the traditional mode of direct instruction was not reaching all students, teachers began infusing elements of MI in their instruction to see what the effect was on the students. Teachers began to use music in the classroom, incorporate more hands-on learning activities, and integrate technology into the classroom as well. The implementation of the MI lessons lasted from January 2000 to May 2000. Performance

and findings were measured by student surveys, teacher checklists, teacher constructed tests, and student portfolios. The first and fourth-grade students both increased in positive feelings towards the social studies after the implementation of MI. There was a slight increase in academic performance with the number of B's increasing among the students (George et al., 2000).

In a North Carolina middle school, researchers also found that the use of MI could be an effective tool for increasing achievement in mathematics and language arts classes. Strahan and colleagues (1996) investigated the results of a sixth-grade class after implementing a “mindful learning” approach into math and language arts classes. *Mindful Learning* was the term they chose to explain the practical applications of the MI theory which integrated “opportunities to learn through all seven ways of knowing into the curriculum” (Strahan et al., 1996, p. 45). Through observations, open-ended questionnaires, and the GOALS assessments, researchers found that students improved in achievement in both math and science. Researchers quantified these gains as significant, yet noted that there was no control group for comparison.

In a unique Career Exploration program, students completed a MI survey, an interest inventory, and career shadowing experience. The objective was to see if students would use the results from their individual MI survey when choosing a shadowing experience (Shearer, 2001). Most of the students reported that the results of the MI survey were accurate and reflective of the personality. The study also showed that over half of the students who participated used their MI survey results to select a career shadowing experience that was linked to their strengths. Moreover, those who used the results to determine the shadowing experience deemed the experience as valuable

(Shearer, 2001). Hence, the MI survey can accurately reflect student interest and may aid students in directing their future career goals.

More research (Mettetal et al., 1997) has indicated that multiple intelligence theory's educational impact may have a positive impact on student learning. Through the use of observations, interviews, and surveys, the researchers attempted to examine the influence of MI curriculum in an elementary school. Three findings emerged from the research: (a) Teachers, administrators, parents, and students all accepted the concept of MI theory; (b) Most students and parents felt positive toward the implementation of a MI curriculum; and (c) There were significant differences in how teachers implemented MI theory into the classroom (Mettetal et al., 1997). The greatest finding was that the MI theory embraced the diverse learning preferences of the students and teachers were able to view students in a completely revised manner. Tests scores on the state assessment increased during the first year when compared to the previous year and continued to rise during the second year of implementation (Mettetal et al., 1997).

Furthermore, many action research studies concerning MI theory have showed that MI can positively affect motivation and academic achievement in the classroom. An action-research project hoped to boost participation and motivation by integrating an arts based approach to social studies at the sixth-grade level. The goal of the program was to "get students more actively involved in their learning. We used a variety of methods that incorporated Multiple Intelligences theory" (Kosky, 2008, p. 23). With a sample of 650 students and 40 teachers, students were exposed to a variety of MI tasks within their current social studies curriculum. Data were collected through test scores, lesson ratings feedback system, and teacher/student input. Results indicated that students rated the

lessons involved MI tasks higher than more traditional direct instructional style. On a 10 point scale, MI lessons averaged a student response of 9.29 while traditional tasks rated at a 5.83. Furthermore, student grades increased during the action research project with a class average of 92.4% during the integration of MI and an average of 89% when using the more traditional teaching methods (Kosky , 2008). In another action research endeavor, five middle school teachers implemented MI based instruction into a variety of disciplines to determine its effect on motivation and personal learning strengths. Case studies among the five teachers found that “when students realized their own areas of learning strength, the MI model is validated for both students and teacher” (Hickey, 2004, p. 85).

Gardner and Hatch (1990) have researched MI theory to see if, in fact, the implementation can positively affect educational reform. One such project, Arts PROPEL, was a collaborative project between the Educational Testing Service and the Pittsburgh Public School System which sought to “assess growth and learning in areas like music, imaginative writing, and visual arts which are neglected by most standard measures” (Gardner & Hatch, 1990, p. 5). Project Spectrum is an ongoing developmental program that involves cultivating curricular activities and assessments that tap into a particular intelligence. The Spectrum classroom consists of a *discovery* area that allows for experimentation, group activities, props, and household objects that students can take apart and reassemble to aid spatial intelligence (1990, p. 6). The research is ongoing, but Gardner cited that teachers are reporting more motivated students.

Kornhaber (2004) asked two very appropriate and important questions in her research of MI theory and educational practices: (a) Once MI is adopted, does anything really change in practice? and (b) When educators claim MI is working, what is actually happening in the classroom? (Kornhaber , 2004, pp. 69-70). Kornhaber and colleagues used the Project on Schools Using MI Theory (SUMIT) study to explore these issues. She found four outcomes associated with the implementation of a MI framework:

1. Nearly 80% of the schools reported improvements in standardized test scores, of which nearly half of the schools associated the improvement with MI.
2. Eighty percent reported improvements in student behavior, with slightly more than half associated the improvement with MI.
3. Eighty percent reported increased parental participation, with 60% associating the increase with the school's adoption of MI.
4. Eighty percent reported a range of improvements for students with learning disabilities, with all but one of the schools associating this improvement with MI (Kornhaber, 2004, pp. 71-72)

Textbook Selection Process

The process of selecting and adopting a textbook has become a hotly debated and deliberated process with many stakeholders and interested parties (Martorella, 1991). There are two processes for textbook selection and the power is left to individual states to decide which of these processes their state will use. The first process involves individual textbook publishers who come to local school districts within a given state, market their textbook series, and then allow the individual school districts to decide which textbook series and publishers they would like to use. This process is known as local adoption

where local districts are free to adopt any texts they would like to use (Martorella, 1991). Twenty-eight states allow this bargaining to occur between individual districts and the textbook publishers. The remaining states have what is known as a state adoption process of acquiring new textbooks within a content area. According to Ansary (2004), the more controversial and complicated process occurs in the remaining 22 states, including the populous states of Florida, Texas, and California. The textbook adoption process dates back to the Reconstruction era and is found more frequently in Southern and Western states (Ezarik, 2005). According to Ravitch, the big three adoption states and their counterparts “dictate the content of the textbooks that are published and sold throughout the country” (Leischer, 2004, para. 5). These three large adoption states “exert an enormous influence on the content of textbooks used nationwide” (Ross, 2001, p. 30). The state adoption process involves the state deciding what textbook and curricular programs can be sold within that individual state. If a textbook series is not on the state adopted published list, then a district cannot buy certain materials or goods from a nonapproved publisher. In most states, a textbook series is adopted for 6 to 7 years and those textbook companies failing to make this adopted list must wait years until bringing their next series to the state for possible approval (Ansary, 2004).

The obvious question is who is approving the state adopted list? For the state of Florida, the textbook publishers place a bid to the Florida Department of Education. Once the bid has been placed, the materials are reviewed by the State Instructional Materials Committee whose members are appointed by the Florida Commissioner of Education. After scrutiny and hearings by the State Instructional Materials Committee, individual committee members vote to approve or disapprove a particular textbook series.

The series must receive a two thirds vote in order to be recommended for adoption (Florida Department of Education, 2005). The Commissioner of Education for the state of Florida then has the final say on which textbooks and curricular materials will be adopted by the state for the allotted adoption cycle (Florida Department of Education, 2005). Once the materials have been approved by the Florida Commissioner of Education, the textbooks trickle down into local school districts and individual schools.

By the time that the trickle-down effect has occurred, individual teachers are often left with only a couple of choices of what textbook series they would like to use for a particular content area. For example, when this writer attended a forum in 2004 to explore social studies textbook options for the upcoming 2005-2006 school year in Pinellas County, Florida for eighth-grade social studies, there were only two choices of textbook series from which to select. Both series were from large publishing companies: McDougal Littell, which is a division of the large Houghton Mifflin Company, and Glencoe which is a division of the McGraw Hill Company. These curricular packages were then sent to individual schools for teachers to provide feedback and to vote on which of the two packages they would like to use in the upcoming school year for a particular subject area and grade level. The results were sent back to the school district and the district chose which textbook series the schools would be using for the upcoming 6 to 7 school years. In the case of eighth-grade social studies, the McDougal Littell series was chosen and is currently used by all eighth-grade social studies teachers in Pinellas County, Florida.

In those state adoption areas, teachers have little impact on what textbook series will be used and often are only given a choice among two or three series. The real

decisions are made long before teachers or districts even take a glimpse at the curricular goods. According to Ravitch (2003), there is “no regular independent scrutiny of textbooks other than the pressure groups that have made textbooks their business” (p. 98). During the state adoption process, the departments of education hold hearings and invite public comments on textbooks, and those critics “use the adoption process to agitate against textbooks they oppose” (Ravitch, 2003, p. 98). According to Tyson-Bernstein (1988), “Publishers and editors are virtually compelled by public policies and practices to create textbooks that confuse students with non sequiturs, that mislead them with misinformation, and that profoundly bore them with pointlessly arid writing” (p. 20). The power and leverage for textbook adoption do not lie in the hands of consumers or educators; rather, leverage is given to the department of education, activist pressure groups, and lobbyists (Ravitch, 2003). Essentially the process of adopting textbooks is a “winner take all system” where those publishers who get approved take the largest prize and those who fail to make the list suffer a large economic defeat because their textbooks cannot be sold in that particular state for the next 6 to 7 years. As Tyson-Bernstein (1988) affirmed, “Publishers who concern themselves only with sales could be accused of bad intentions. . . their first obligation is to return a profit, not to render a public service” (p. 23). Therefore, it is easy to see why textbook publishers invest millions of dollars in the development and marketing of a new series as their economic livelihood depends on the adoption in several key states including Florida, California, and Texas (Ravitch, 2003). Those three states combined have roughly 13 million students in the K-12 public schools arena and budget more than \$900 million for instructional materials each year (Ansary, 2004). As Ross asserts (2001), the textbook industry is “highly competitive and

is dominated by a small number of large corporations; as a result, textbook companies modify their products to qualify for adoption in one of three large adoption states” (p. 30).

Findings on Textbook Usage by Students and Teachers

As previously stated in chapter 1, research shows that textbooks are the main source of information in both elementary and secondary schools (Banks, 1990; Wakefield, 2006; Zevin, 2000). The findings show this to be true in social studies as well as other content areas such as mathematics, language arts, and science (Banks, 1990). Because textbook use is so commonplace in the classroom and the textbook industry is a highly controversial field, Apple (1990) believed that textbooks are a form of cultural politics” which involve the “very nature of the connections between cultural visions and differential power” (p. 23). According to Zevin (2000), “Many teachers tend to follow the textbook as their main source of ideas and material without much enrichment or supplementation from other sources” (p. 320). Furthermore, Tyson-Bernstein (1988), asserted that “many teachers no longer see the book as material for students to read, but as a reference guide to the material that is supposed to be covered in class” (p. 39). The textbook becomes a manual for teaching which guides teachers through the content, supplemental activities, and content planning with virtually any effort on the part of the instructor (Zevin, 2000). More studies have suggested that the textbook may be one of the only books a student reads during the time frame of a selected course and 70% to 90% of classroom decisions are based on textbooks (Muther, 1985).

Because textbook adoption has become a controversial and debated process in states such as Florida and California, textbooks publishers aim for economic gain by

selling products that appeal to a large body of potential critics. In a study of American history textbooks published over a 100-year period by Fitzgerald, results showed that content is influenced by political, social, and economic changes which results in conflicting interpretations of history, yet publishers still develop products that promote large sales and little criticism, resulting in “books that are bland and inoffensive but also generally uninteresting to young people” (Zevin, 2000, p. 324). After a review of the most commonly used American history and world history textbooks in the United States, the Fordham Foundation found most to be dull, simplified, and boring. The Fordham president, Finn stated,

none is distinguishing or even very good. The best are adequate...and because textbook publishers bend over backward not to offend anybody, so much in today’s history texts is simplified and sanitized . . . the result: fat, dull boring books that mention everything but explain practically nothing. (Leischer, 2004, para. 6)

The major problem with textbook publishing is that there is a flawed production system with only four companies (Pearson, McGraw-Hill, Reed Elsevier, and Houghton Mifflin) saturating the school market known as the elementary-high school or “elhi” textbooks (Sewall, 2005, p. 498). In a recent 2008 research endeavor, the High School Survey of Student Engagement found that high school students were bored in class and teetering toward dropping out. A vast 75% of the 81,000 students interviewed found the material in their classes to be dull and uninteresting (Strikowsky, 2008).

New teachers are often thought to use textbooks even more frequently than their seasoned counterparts. Ball and Feiman-Nemser (1988) found that new elementary

school teachers resorted to using textbooks and their accompanying guides even after their teacher preparation program had cautioned against such reliance. Prior to teaching, many of preservice teachers felt that teachers should only use textbooks to get ideas and instead should develop their own units and lessons of study; however, many found themselves using the textbook and related programs once teaching citing overwhelming responsibility, survival, and organization as reasons for grabbing the guide. In a review of textbook literature, Moulton (1997) summarized that U.S. teachers seem to be “expected by their mentors, peers, bosses, and clients to use textbooks extensively” (p. 9). It was found that less experienced teachers and teachers who lack subject matter expertise rely more heavily on the textbook than others (Moulton, 1997).

It is highly unlikely that the dependence of teachers to textbooks will cease to exist as textbooks are an economic hotspot and they help teachers deal with an overwhelming amount of content in history. However, it is hoped that textbooks can be constructed in ways that are more likely to target all learners while still aiding the teacher in curriculum planning.

The Need for Further Research

Although few reports are published showing the impact of a multiple intelligence framed curriculum to be irrelevant, it is imperative to look also at the research that shows that MI focused classrooms have positively affected motivation and achievement results. Furthermore, several research studies (Armstrong, 2000a; Banks, 1990; Leischer, 2004; Tyson, 1997; Zevin, 2000) have shown that textbooks are the single most important instrument given to the teacher in the history classroom as it serves, not only as a curriculum tool, but also as an instructional blueprint, and the foundation of knowledge.

The purpose of creating an instrument for measuring the availability of MI-directive tasks in the history textbooks is important in creating a curriculum that is more targeted at reaching all learners and learning styles. Such an instrument may teachers to favor those textbooks that target all learners as well as help educators to be more cognizant of the types of learning tasks that are asking students to complete and how those tasks will allow students to gain a greater understanding of the content at hand.

Summary

Multiple Intelligences theory continues to gain ground in the field of education. Research endeavors have shown that MI oriented classrooms have affected motivation and achievement in a positive manner (Kosky, 2008; Mettetal, Harper, & Jordan, 1997; Strahan, Summey, & Bowles, 1996). Action research projects involving MI formats can help develop students' independence and responsibility, reduce discipline problems, improve academic achievement, improve cooperative learning skills, and develop new skills (Campbell, 1991). Furthermore, teachers feel that textbooks are an important tool in organizing classroom activities, providing for instructional benefits, and helping with lesson ideas (Schug, Western, & Enochs, 1997). The annotated teacher's edition of history textbooks has become the main source for curriculum planning, instructional tools, and methods in the classroom. The merger of MI theory and textbooks is a combination that must be studied and reviewed to fully understand the effects that MI theory can have on the classroom, curriculum, and content of instructional tools.

Chapter 3: Methods

Throughout the United States, the history classroom appears to be in turmoil. The National Assessment of Educational Progress (NAEP) results in the area of U.S. history show less than favorable progress for America's fourth, eighth, and 12th graders (National Center for Education Statistics, 2001). Many teachers feel that students are not tuned into social studies and students find the content boring and irrelevant (Hope, 1996; VanSickle, 1990). Young people are not engaged in classroom activities as often as hoped (Wakefield, 2006; Zevin, 2000). The question becomes: How can the history classroom and the student become motivated, challenged, and engaged in his or her own learning? With action research projects showing that MI-inspired curriculum is improving academic performance and raising student motivation in the classroom, it is possible the merger of a MI curriculum with the availability of textbooks could be the answer to some of the problems that the field of history is facing (Campbell & Campbell, 1999; Hickey, 2004; Kosky, 2008).

Based on the current state of apathy in the social studies classroom, dismal achievement results in social studies and history, and lack of engagement in the social studies classroom, it seems critical for educators to assess what is causing these negative forces to intrude on the history classroom and student learning and furthermore, how they can be alleviated in order for student achievement and motivation to progress? For this

study, the theory of MI and the U.S. history textbooks are the focus. It appears that a major problem with U.S. history textbooks lies in the premise that not all intelligences are being targeted. Furthermore, the lack of focus on all intelligences could be a leading contributor to poor student performance and low achievement results because students with unique intelligences are often overlooked and ignored.

The purpose of this study was twofold. The study utilized a rubric for measuring the presence of MI-structured tasks in the teacher's editions of four 11th grade U.S. history textbooks. The tool was created first giving the researcher the capability to analyze the types of tasks found within the teacher's editions of the history textbooks. Through the analysis of the types of tasks, the second purpose allowed the researcher to determine what types of MI-structured tasks were being offered in the teacher's editions and to distinguish what changes have occurred from early textbook editions to more recent textbooks in use.

The goal of this research was to shed light on the teacher's editions of U.S. history high school textbooks by developing a tool to measure the availability and presence of MI structured tasks in those particular texts. The central question to be addressed in this study was: Are the textbooks being used by teachers in secondary U.S. history classrooms presenting tasks promoting the MI framework in order to offer differentiated instruction to all students? More specifically, the following questions were investigated:

1. To what extent do the annotated teacher's editions' recommended activities in four widely adopted high school U.S. history textbooks reflect a multiple intelligences framework?

2. Are certain multiple intelligences more likely or less likely to appear in the teacher's editions' recommended activities of four widely adopted high school U.S. history textbooks?

3. Has the number of multiple intelligences tasks recommended in the teacher's editions of four widely adopted high school U.S. history textbooks changed between the mid-1990s editions and the more recent mid-2000s editions?

Sample

The textbooks selected were both adopted by the state of Florida and used in classrooms across the state depending on which county one resides in. The textbooks were published by major companies which target Florida schools, as the state is one of the larger markets for buying textbooks due to the large student enrollment as well as the state adoption process. In addition, the textbooks were found in classrooms throughout the United States according to the American Textbook Council (2008, 2010) which assembles a database of the most widely adopted textbooks in both history and social studies. According to the American Textbook Council (2010), these textbooks are commonly included in major adoptions and along with six others, hold an "estimated 80% of the national market" (para 4). All of the textbooks selected were intended for use in an 11th grade American History course. The first textbook reviewed was *The Americans* published by the McDougal Littell in 1998. *The Americans* (1998) was the annotated teacher's edition which was written by Danzer, Klor de Alva, Woloch, and Wilson. The second textbook chosen reviewed was *The Americans* published by McDougal Littell in 2007. *The Americans* (2007) was also the annotated teacher's edition and was written by the same four authors: Danzer, Klor de Alva, Woloch, and

Wilson. The third textbook chosen for review was *America: Pathways to the Present* published by Prentice Hall in 1995. *America: Pathways to the Present* (1995) was the annotated teacher's edition and was written by Cayton, Perry, and Winkler (1995). The fourth and final textbook reviewed was *America: Pathways to the Present* published by Prentice Hall in 2005. *America: Pathways to the Present* (2005) was the also the annotated teacher's edition and was written by the original 1995 authors with addition of L. Reed as an additional author.

It is important to note that the four textbooks were chosen as a purposeful sample. These books met the following selection criteria: (a) two editions, one from the 1990s and one from the early 2000s were approved for state adoption; (b) authorship was consistent over time; and (c) the books were widely used throughout the state of Florida. These selection criteria enabled the researcher to make comparisons between early and later year editions of the same textbooks to determine if changes in instructional methods did, indeed, occur between editions.

Once the textbooks were selected, the next major decision in the research process involved deciding which content would be examined. The researcher was previously employed by Pinellas County Schools in the state of Florida and the school district had devised a list of Essential Learnings for the Social Studies depending on the grade level and course content. The Pinellas County Essential Learnings are the essential content that should be taught in a respective grade level and sequence. These Essential Learnings were created by Pinellas County educators and are based on the Florida Sunshine State Standards which are supported by national standards and current educational research (Pinellas County Schools, 2011). In the course sequence, Pinellas County students in the

11th grade enroll in an American History course that covers content from the Reconstruction Era to the Conservative Revolution, roughly from 1865 to the 1990s. It is important to note that the content prior to the Reconstruction Era in the United States is covered during the eighth-grade year of a Pinellas County student. Pinellas County is located on the Florida's west coast and Pinellas County School District is the seventh largest district in Florida with 141 total schools. Pinellas County Schools serves over 100,000 students, employees over 15,000 employees, and currently is the 25th largest school district in the United States (Pinellas County Schools, 2009).

The Pinellas County Essential Learnings is the mandated curriculum as prescribed by the Pinellas County School Board and its organization is divided into units. These units include Reconstruction, the Gilded Age, Imperialism, the Progressive Era, World War I, the Roaring 20s, the Great Depression and New Deal, World War II, 1950s Society, the Cold War, the Civil Rights Movement, Politics and Society in the 1960s and 1970s, and the Conservative Revolution (Pinellas County Schools, 2004). These units served as the textbook chapter selection framework. Within each chapter, textbooks were often broken down into multiple units or sections. Random selection of these text chapters and sections occurred to produce a meaningful sample.

The selection of the strategies and activities of the teacher's edition to analyze was an important choice as well. This researcher looked only at the activities that are located in the wraparound text of the teacher's editions. These activities are only available in the teacher's edition of the textbook and would not be available or included in a student edition of the same text. The activities were located on both the right-hand side and left-hand side of both editions. In the 2007 edition of *The Americans*, the

teacher's activities selection continued at the bottom of the page as well, while in the 1998 edition of *The Americans*, the teacher's activities selection were made available across the top of the page.

Activities were first placed into one of two groups: a MI category, depending on whether the activity lends itself to a particular type of multiple intelligence (MI directive/MI directive task), or in a nondirective task category which does not specifically ask the teacher to perform a job and in turn the student could not perform a task because the teacher was not asked to do so (nondirective task). A nondirective task may have appeared as a single question in the teacher's wraparound section of the textbook.

Example: Who were the five civilized tribes and where did they live? What was the Indian Removal Act of 1830? From this example found in *The Americans* (2007), there were simply five questions found in the wraparound text. It was not stated that the teacher was to ask these questions to the students, nor was it suggested that the students were to do anything with the questions. Due to its nonspecific nature, tasks such as these were categorized as a nondirective task.

Included in this wraparound text were also informational sections such as "More About, Tracing Themes, Connections Across Time, and Key Players" (Danzer et al., 1998, 2007). These sections contained only supplemental content or background knowledge for the instructor or teacher and offered no tasks for the teacher or student. Because of their lack of teacher activity or student activity focus, these informational and background based items were always omitted from analysis.

Within the *America: Pathways to Present* textbooks, the teacher's activities sections were found in a wraparound fashion as well. In the 1995 edition, the selection of

teacher's activities was found on the right and left hand side of the text as well as the bottom of the pages. In the 2005 edition, the locations of the teacher's activities were found in similar positions. Included in the wraparound texts were informational sections such as "Standards Focus, Background, In Depth, From the Archives, and Caption Answers" (Cayton, Perry, & Winker, 1995; Cayton, Perry, Reed, & Winker, 2005). These sections contained only supplemental, background, or connections to state standards information for the teacher. Because of their lack of teacher activity or student activity focus, these informational and background based items were always omitted from analysis.

Variables

For the quantitative data collection, dependent variables of interest in this study included the levels of MI being examined: logical/mathematical, verbal/linguistic, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist. With the exception of naturalist, the original seven MI are listed; however, the researcher sought to use naturalist as well because it is part of Gardner's current MI configuration and those eight intelligences are generally accepted as the multiple intelligence theory. In addition, the MI directive task versus nondirective task categories served as dependent variables. Finally, the categories of two intelligences combined (combined-2) and three or more intelligences combined (combined-3+) served, too, as dependent variables. Four independent variables were used in this research project: *The Americans* 1998 version, *The Americans* 2007 version, *America: Pathways to the Present* 1995 version, and *America: Pathways to the Present* 2005 version. It is important to note that the four textbooks were chosen as a purposeful sample. These books met the

following selection criteria: (a) two editions, one from the 1990s and one from the early 2000s were approved for state adoption; (b) authorship was consistent over time; and (c) the books were widely used throughout the state of Florida. These selection criteria enabled the researcher to make comparisons between early and later year editions of the same textbooks to determine if changes in instructional methods did occur between editions.

Instrumentation

As the review of related literature found, there were no current tools or rubrics which categorize tasks found in U.S. history textbooks as part of the MI framework. Because of this void, it was essential that the researcher began by developing a rubric in order to categorize these tasks as a directive, multiple intelligence task(s) or a nondirective task where no specific instructions were given for the teacher and no outcome was intended for the learner. The tool was the Multiple Intelligences Textbook Analysis Rubric and was created by the researcher. The rubric analyzed the selected sections and chapters chosen. Within each chapter selected, the first function of the rubric was to measure the number of activities as an MI directive task or nondirective task. An MI directive task was operationally defined as an activity or job in which the teacher was requiring the student to do a specific job, to answer questions, to perform a behavior, or to produce a product. The important function was that the student was being asked to produce something related to mastering some aspect of the Pinellas County Essentials Learnings. An MI directive task might be “Ask the student to explain the era of Reconstruction, or create a timeline of the Civil War.” A nondirective task was operationally defined as an activity that does not specifically ask the teacher to perform a

job or, in turn, the student to perform a task. For example, a nondirective task might appear as a question in the teacher's edition of the textbook such as "How did Reconstruction bring African Americans into politics?" Here one can see that an MI directive task has not taken place because the student has not been asked to produce a product, answer a question, or perform a behavior so the task is considered a nondirective task. Because the instructions for the teacher were not clear or specific and the student was not required to complete a specific job, answer questions, perform a job, or produce a product, categorization into MI category was not possible for these nondirective items.

Once the activities had been classified as an MI directive task or nondirective task, the next goal of the rubric was to categorize those MI-directive tasks into a single category of the MI framework: logical/mathematical, verbal/linguistic, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal, intrapersonal, or naturalist. For example, the instrument had to be able to distinguish between a logical-mathematical task and a verbal-linguistic task. The researcher calculated the number of MI tasks that were found in the wraparound text of each chapter and notes were made concerning the types of MI tasks located within. However, some tasks included two components of the multiple intelligence framework and these tasks were placed into categories of two intelligences combined (combined-2). For example, a task that asks a student to work in groups of four researching Supreme Court cases was an activity that is both interpersonal and linguistic and was categorized into the combined-2 category. Notes were made on what combinations are present within that category. In addition, there was also a rubric category for a task that involves three or more intelligences combined (combined-3+).

Frequency counts and notes were taken on what intelligences were combined together in this category as well.

The rubric allowed for classification and categorization of the MI-directive tasks found within the selected chapter. The researcher not only counted the number of MI-directive tasks, combined-2 tasks, and combined-3+ tasks, but also briefly explained the task and noted page numbers as well. A total of each category occurred at the end. For a sample rubric, see Appendix A.

Procedures

Once the textbooks were appropriately selected and the choice of data to analyze solidified, the next step in the research process involved the development phase of creating the rubric to measure MI-structured tasks. The researcher initially designed a rubric of MI-directive tasks and began to categorize tasks found in the teacher's editions into single or multiple categories depending on what the teacher and the student were asked to perform. The researcher used Pinellas County Essential Learnings (2004) for the 11th grade as the guide for selecting specific content, chapters, and tasks for analysis.

As preliminary data were being collected, the researcher was clarifying continually the definition of a MI directive and nondirective task as well as redefining the specific MI categories in order to ensure that the definitions are operational for this study as well as specific enough to ensure consistency when the rubric was reviewed. In addition, the MI categories needed to be easy and simple to recognize through clear definitions, and clarifications were ongoing. During data collection, the researcher was also keeping an audit trail of decisions, definitions, and other important evaluations to provide further clarification and explanations.

Expert Panel Review. Once the definitions and categories were established and categorizations of the textbooks tasks were underway, the researcher put together an expert panel to evaluate the validity and reliability in the data and the Multiple Intelligences Textbook Analysis Rubric. The expert panel was comprised of three educators who are college graduates with both undergraduate and graduate degrees. With a combined teaching experience total of 17 years in a variety of social studies areas such as U.S. history, World history, Florida history, geography, psychology, sociology, and anthropology, the three educators were all currently pursuing a Ph.D. in Curriculum and Instruction in Secondary Education with an emphasis in Social Science Education. The expert panel was asked to fill out an information sheet upon which included questions about demographics, education, and teaching experience. In addition, the expert panelists were asked about their familiarity with the teacher’s editions of U.S. history textbooks and their familiarity with the theory of MI. After filling out the information sheet, the expert panel was given a verbal orientation to the study which described the purpose, analysis, and rubric. The orientation was read to the expert panel and can be reviewed in “Steps to Expert Panel Analysis of MI Textbook Analysis Rubric” in Appendix B. The expert panel was also given a brief verbal overview of the theory of MI. The overview was read from a script and included information on the eight MI that have been confirmed by Gardner.

The next step of the expert panel review was an overview of MI/directive tasks and nondirective tasks and the “Task and Multiple Intelligences Categorization Sheet” was reviewed. The categorization sheet helped to explain to the expert panelists the distinction between MI/directive tasks and nondirective tasks. In addition, the

categorization sheet also helped to further clarify and distinguish between the 10 categories of multiple intelligences including the combination categories found in the rubric. Expert panelists were given information on the following categories: logical/mathematical, verbal/linguistic, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal, intrapersonal, naturalist, combined-2, and combined-3+. See Appendix C for more information on the categorization sheet.

Step 4 of the expert panel analysis included the “Practice Items for Expert Panel” (see Appendix D). The practice items gave the panelists the opportunity to use the Multiple Intelligences Textbooks Analysis Rubric which was created by the researcher. The researcher read the directions to the panelists and completed all seven practice items with all panelists. The panelists were able to discuss answers, categorizations, review the categorization sheet, and ask questions if needed. Once all practice items were completed by the expert panelists and all experts were comfortable with the rubric and categorization rubric, the panel was asked to complete the “Expert Panel Tasks to Analyze” (see Appendix E) and given a Multiple Intelligences Textbook Analysis Rubric to use for categorization purposes. The tasks to analyze included 20 items from various parts of the four U.S. history textbooks sample used in the study. During stage one of the expert panel reliability check, the panelists were asked to decide if each of the 20 tasks were MI/directive or nondirective. The goal was to see if the panelists could correctly categorize the MI/directive tasks versus the nondirective tasks.

The second check of the panelists was to measure if the panelists could categorize the MI/directive tasks into one of the 10 prescribed categories on the rubric. Given that the panelists recognized the sample tasks as a MI/directive tasks, the experts were

prompted to categorize the task into a single category or a multiple component category (combined-2 or combined-3+ category). Finally, the expert panel was asked to sort the combined-2 or combined-3+ categories into the correct individual tasks areas. For example, if a task was marked as a combined-2 MI/directive task, then the panelists had to note which two MI categories the task was comprised of. A task that requires students to work in group researching a Supreme Court case is an example of an activity that is both interpersonal and linguistic so the panelists would need to detect the 2 combined nature of the task and then dissect the task into an interpersonal intelligence task and a linguistic or verbal task. The panelists were allowed to ask questions if needed and given ample time to complete the process. The final stage of this process was the calculation of the interrater agreement scores to determine the reliability and validity of the Multiple Intelligences Textbooks Analysis Rubric.

The first phase of the study involved the implementation of the tool, Multiple Intelligences Textbook Analysis Rubric, to measure the presence of MI-directive tasks in the U.S. history curriculum. Data were collected by analyzing each of the tasks in the teacher's edition of the textbook and then categorizing the tasks found within each chapter into a specific category of the MI framework. Each task or activity was placed into one of the following categories: nondirective task, linguistic/verbal, logical/mathematical, visual/spatial, bodily/kinesthetic, musical, interpersonal, and intrapersonal, two intelligences combined, or three+ intelligences combined.

As mentioned previously, if the task did not give specific instructions for the instructor to perform, it was automatically tallied and counted as a nondirective task because there were no directions as to what the instructor should do and no outcomes for

what the student was expected to perform. Those tasks where directions were given to the instructor such as a task that says “Ask the students. . .” were then categorized according to the MI preference. Asking the students to respond to a question was an example of a purely linguistic or verbal task and the task was placed in the linguistic category. However, some tasks included more than one component or style of the multiple intelligence framework, and these tasks were placed into a prescribed combined category. For example, a task that says “In groups, design an ad campaign to urge people to help produce and conserve food for the war effort” involved the use of interpersonal and bodily/kinesthetic intelligences. This type of task was placed into the combined-2 category. In addition, there was another category for a task that would combine three or more intelligences and was called the combined-3+category.

Research Design

After the MI instrument had been developed and verified for reliability and validity and all data collected, the quantitative study employed a causal-comparative design to examine the influence of MI theory on the formation of textbooks activities in the U.S. History curriculum. Causal-comparative studies are useful when the independent variables cannot be manipulated and the independent variable is measured in the form of categories. The categories for the independent variable in the study were the earlier mid-1990s textbook series versus more recent mid-2000s series. While this research design does not permit “strong conclusions about cause and effect,” it can be useful for exploratory situations when manipulating the independent variable is not possible (Gall, Gall, & Borg, 2007, p. 306). Furthermore, researchers often use causal comparative designs because “forming groups to measure the independent variable is

often more consistent with how practitioners and other education stakeholders think about the world” (Gall et al., p. 307).

Analysis of Data

Nonparametric tests are tests of “statistical significance that do not rely on any assumptions about the shape or variance of population scores” (Gall et al., 2007, p. 325). Because the researcher did not assume one intelligence to be more prevalent than others, a nonparametric statistical test was used to analyze the data. A chi square test was used to analyze the data due the categorical nature of the independent variables of the textbooks and the categorical nature of the multiple intelligences. Descriptive statistics on the dependent variables, such as the frequency counts, were reported. The chi square test was chosen to analyze the data as it is a “nonparametric statistical test to determine whether research in the form of frequency counts are distributed differently” (Gall et al., 2007, p. 325). The use of the chi square test was used to determine if the null hypothesis of no differences between the groups of tasks were rejected. The chi square goodness of fit can be used to analyze data when the following assumptions are met: the data are obtained from a random sample, the expected frequency in each category is at least 5, and the data is mutually exclusive and exhaustive. All assumptions were met and the chi square goodness-of-fit test was used. The data were analyzed using the Statistical Analysis Software (SAS). Level of significance for the study was set at the .0001 level.

In addition, the phi coefficients were provided. Phi coefficients are used in calculating inter-item correlations and are a measure of the magnitude of the relationship between two dichotomous variables in the chi square analysis (Gall et al., 2007). In addition, effect sizes were also reported as small, medium, or large. Gall and colleagues

(2007) defined *effect size* as a “statistical measure of the strength of an observed difference between groups on a test or other instrument or the strength of an observed relationship between two or more variables” (p. 639). Differing from statistical tests, effect sizes serve as a guide for interpreting the size of the treatment effects and help in making inferences about the practical significance of the research results.

Validity and Reliability

The term validity refers to “the accuracy of inferences” (Popham, 2000, p. 91). Ultimately it asks the question does the instrument measure what it claims to measure. For purposes of this study, did the rubric created actually measure the magnitude and availability of MI-oriented tasks found within the teacher’s edition of the chosen four texts? This study was concerned with the content validity of the study. The content-related validity evidence refers to “the degree to which the sample of items, tasks, or questions is representative of some defined universe or domain of content” (Popham, 2000, p. 96). In terms of this study, the researcher was concerned with the validity of the rubric actually measuring MI tasks in the teacher’s edition of the text rather than measuring any other effect or factor. To help ensure the content validity of the study, the researcher exposed the instrument to expert analysis. During the expert analysis, a panel of experts who were knowledgeable and referenced in the theory of MI evaluated the rubric by categorizing activities from *The Americans* textbooks and *America: Pathways to the Present* textbooks. These categorizations were then compared with those of the researcher to ensure that the researcher’s tool was measuring what it claimed to measure. The panel was able to categorize MI/directive and nondirective tasks and subsequently categorize into the MI categories with a high degree of interrater reliability. If there had

been a low degree of interrater reliability between the expert panel and the researcher, then the categorical classification system would have been reviewed and clarified.

Another crucial part of study was ensuring that the rubric was useful in the area of reliability. Reliability refers to a consistency, congruence, or stability over a period of time (Popham, 2000). By using the expert analysis to ensure the validity, it will also function as a tool for guaranteeing that the tool was consistent between reviewers as well as time lapses in reviewing the content. A panel knowledgeable in both MI theory and social studies content was oriented to the instrumentation and asked to categorize some sample tasks using the rubric created. The panel completed the assignment with a high interrater agreement as detailed in chapter 4; however, if there had been a low interrater agreement between the panel and the researcher, then the classification system would have been reviewed and adjusted.

Summary

Once the rubric was been created, expert checked, and all data collected from the textbook chapters, the next stages of this study involved analyzing the data to determine patterns emerged in the teacher's editions of *The Americans* and *America: Pathways to the Present* texts concerning the focus on MI-structured tasks. Prior to the data being analyzed, it was also important for the criteria for the textbook selection, operational definitions, and underlying theory to be examined and acknowledged by the researcher. The remaining chapters focus on the rubric development and process, data interpretation, conclusions, and further research.

Chapter 4: Results

This chapter presents the results of the textbook analysis of the four 11th-grade U.S. history textbooks used in the study. The purpose of the study was first to design a rubric for measuring the availability and presence of MI-structured tasks in the teacher's editions of four 11th-grade U.S. History textbooks. The textbooks selected were both adopted by the state of Florida and used in classrooms across the state depending on which county one resides in. In addition, the textbooks were found in classrooms throughout the United States, according to the American Textbook Council (2008), which assembles a database of the most widely adopted textbooks in both history and social studies. The textbooks were published by major companies which target Florida schools since the state is one of the larger markets for buying textbooks and driving textbooks sales across the country (Goldstein, 2001). Once the tool was created, the researcher then had the capability to analyze the types of tasks found within the teacher's editions of the history textbooks. Through the analysis of the types of tasks, the researcher worked to determine what types of MI-structured tasks were being offered in the teacher's editions of the textbooks and to distinguish what changes have occurred from early textbook editions to more recent textbooks in use. Specifically the following questions were examined:

1. To what extent do the annotated teacher's editions' recommended activities in four widely adopted high school U.S. history textbooks reflect a multiple intelligences framework?

2. Are certain multiple intelligences more likely or less likely to appear in the teacher's editions' recommended activities of four widely adopted high school U.S. history textbooks?

3. Has the number of multiple intelligences tasks recommended in the teacher's editions of four widely adopted high school U.S. history textbooks changed between the mid-1990s editions and the more recent mid-2000s editions?

Tables have been used to present the various analyses and to facilitate the discussion based on the findings. The findings have been grouped into two sections: Section I contains the findings of the expert panel which was formulated to rate the interrater reliability of the tool created in order to guarantee consistency between reviewers, time, and textbooks used. Within the interrater reliability, several items of importance were analyzed and reviewed: (a) categorization a MI directive task versus a nondirective task, (b) categorization of a single MI directive task into one category, (c) categorization of both single and multiple tasks with combined categories as one, and (d) categorization of both single and multiple tasks with combined categories as individual groups. Section II contains the findings of the chi square analyses that were conducted to answer Research Questions 1, 2, and 3.

Section I: Expert Panel Analysis

The expert panel was asked to fill out an information sheet upon which included questions about demographics, education, and teaching experience. The expert panel was

comprised of three educators who were college graduates with both undergraduate and graduate degrees. With a combined teaching experience total of 17 years in a variety of social studies areas such as U.S. history, world history, Florida history, geography, psychology, sociology, and anthropology, the three educators were all currently pursuing a Ph.D. in Curriculum and Instruction in Secondary Education with an emphasis in Social Science Education. In addition the expert panelists were asked about their familiarity with the teacher's editions of U.S. history textbooks and their familiarity with the theory of MI. Panelists were specifically asked, "How familiar are you with the teacher's editions of U.S. history textbooks?" Panelists were able to rate their answer on a 3-point Likert scale consisting of *very familiar*, *somewhat familiar*, or *not very familiar*. All panelists answered this question as "very familiar." In addition, the panelists were specifically asked "how familiar are you with the theory of MI?" Again, the experts were able to rate their answer on a 3-point Likert scale consisting of *very familiar*, *somewhat familiar*, or *not very familiar*. All panelists answered this question as *very familiar*.

With respect to the "Expert Panel Tasks to Analyze" and the "Multiple Intelligences Textbook Analysis Rubric," the expert panelists were able to distinguish between a MI directive task and a nondirective task on the "Expert Panel Tasks to Analyze" (see Appendix E) with 100% reliability as indicated in Table 1. Of the 20 sample tasks, 18 of the tasks were MI-directive tasks and two were nondirective tasks. All panelists were able to distinguish between the tasks.

The second reliability check tested if the expert panelists were able to categorize a MI directive task into one single category. For example, task one stated "ask students to analyze the significance of the inclusion of students into the civil rights movement." All

raters were able to categorize task one into the one MI directive category of linguistic/verbal. Essentially, the experts needed to be able to distinguish a nondirective task from a MI directive task (reliability check one) and once a task was categorized as a MI directive task, the expert panel needed to be able to classify in which MI single grouping the task fell. These tasks on the “Expert Panel Teacher’s Edition Sample Tasks” were sorted into one and only one category and did not have more than one MI present within the task. The possible categories included the eight commonly accepted areas of MI: linguistic/verbal, mathematical, spatial, kinesthetic, interpersonal, intrapersonal, musical, or naturalistic. The overall interrater reliability average for check two was a 90.29% level of agreement.

The third reliability check tested if the expert panelists were able to distinguish between MI-directive tasks with multiple components. Essentially, the check was aimed toward answering the question: Can the expert panelists determine if a task is combining more than one of the MI categories? For example, one task stated: “Have small groups of students create a skit illustrating how a piecework system favors the employer. Each worker must perform a task, such as create a paper hat or airplane, chosen by the group” (*America: Pathways to Present*, 1995, Chapter 14, Section 3, page 400). The expert panel needed to be able to select the task as a combined-2 MI task because it has two components of MI involved in the completion. In addition, some tasks might even have a third or fourth component of MI present that those tasks would need to be categorized as a combined-3+ category. The expert panel was able to spot a combined-2 or combined-3+ category at a 91.75% level of agreement.

The final check was for the panelists to sort a combined-2 or combined-3+ task into the correct individual categories as well. For example, if the sample task was categorized in check three as combined-2 category, the next step was for the expert panel to label which two MI were being targeted within the task. In the previous example, the task: “Have small groups of students create a skit illustrating how a piecework system favors the employer. Each worker must perform a task, such as create a paper hat or airplane, chosen by the group” was recognized as a combined-2 category task in check three (*America: Pathways to Present*, 1995, Chapter 14, Section 3, page 400). In the fourth and final check, the panel needed to be able to choose the correct two intelligences demonstrated in the task. For the above task, the expert panel should have selected both an interpersonal component and a kinesthetic component to the task. The interrater reliability was 87.475% level of agreement for check four.

Section II: Chi Square Analysis

Research Question 1. Data examined for Question 1, which addressed the extent to which the teacher’s editions’ of the four chosen U.S. history textbooks reflected a MI framework showed that all four teacher’s editions’ reflected a MI methodology as indicated in Table 1. Specifically, the numbers of MI-directive tasks versus nondirective tasks were calculated through frequency counts for each of the four U.S. history textbooks within the sample. To determine a relationship between the two types of tasks, the chi square goodness-of-fit test was used. The goodness-of-fit test measures how closely the “observed values of a sample fit an expected, ideal ratio” (White, 2001, p. 134). Two values are involved in the chi square goodness-of-fit analysis including the

observed value and the expected frequency. The null hypothesis for the chi square goodness of fit predicts there will be no differences between the two values.

The results of the chi square test indicated that, *The Americans* (1998) textbook series, there was a statistically significant difference between the MI-directive tasks and the nondirective tasks, $\chi^2(1, N= 1072) = 648.84, p < .0001, \phi = .78$. Thus, the null hypothesis was rejected. The effect size as measured by the phi coefficient represents a somewhat large effect size. Effect size is a term “used to describe a family of indices that measure the magnitude of a treatment effect” (Kotrlík & Williams, 2003, p. 1). Effect sizes measure will include “mean differences ...and conveys the magnitude of the phenomenon of interest appropriate to the research context” (Cohen, 1990, p. 1310). Furthermore, Cohen (1988) believed that effect sizes could be interpreted as small (0.2), medium (0.5), or large (0.8) depending on the coefficient. Essentially, the phi coefficient is a measure of the association between the two variables used to report the effect size, and with regards to Research Question 1, the phi represents the relationship between the textbooks and the MI/directive tasks versus nondirective tasks present.

In *The Americans* (2007) textbook series, the chi square test indicated that there was a statistically significant difference between the MI-directive tasks and the nondirective tasks, $\chi^2(1, N = 1269) = 28.15, p < .0001, \phi = .15$. Interestingly, *The Americans* (2007) showed a big drop in the phi coefficient which implies a weak relationship between the number of MI/Directive task and nondirective tasks found in this particular edition in terms of practicality. With *The Americans* textbook series combined, the chi square continued to indicate a statistically significant difference between the MI-

directive tasks and the nondirective tasks within the teacher's editions' as shown in Table 1.

Table 1: Chi Square Analysis of Research Question 1

Textbook series	Year	Chi square	<i>p</i> value	Sample size	Effect size (ϕ)
<i>The Americans</i>	1998	684.84*	<.0001	1072	.78
<i>The Americans</i>	2007	28.15*	<.0001	1269	.15
<i>The Americans</i>	Combined	447.04*	<.0001	2341	.44
<i>Pathways to the Present</i>	1995	653.21*	<.0001	677	.98
<i>Pathways to the Present</i>	2005	616.39*	<.0001	915	.67
<i>Pathways to the Present</i>	Combined	1259.46*	<.0001	1592	.89

Note. * indicated a statistically significant difference.

The *Pathways to the Present* textbook series were also statistically significant when the chi square test was used to determine if a MI-directive framework appears within its teacher's editions' in comparison to a nondirective framework. In the *Pathways to the Present* (1995), there was a statistically significant difference between MI/directive tasks and nondirective tasks and the effect size was found to be large as well, $\chi^2(1, N = 677) = 653.21, p < .0001, \phi = .98$. In the *Pathways to the Present* (2005) edition, the results of the chi square indicated that there was also a statistically significant difference between MI/directive and nondirective tasks, $\chi^2(1, N = 915) = 616.39, p < .0001, \phi = .67$. The effect size as determined by the phi represented a medium effect. When the *Pathways to the Present* textbooks series were combined, the results of the chi square continued to indicate there was a statistically significant difference between MI/directive tasks and nondirective tasks.

Research Question 2. After evaluating the statistical significance of MI-directive tasks versus nondirective tasks in the four U.S. history textbooks of the sample,

the next analysis was aimed at Research Question 2 which asked “Are certain MI more likely or less likely to appear in the teacher’s editions’ recommended activities of four widely adopted high school U.S. history textbooks?” For each category found in the Multiple Intelligences Textbook Analysis Rubric, a frequency count was obtained. A 1:1 ratio was hypothesized and chi square analyses were used to determine if the actual data fit the predicted 1:1 ratio. For example, all linguistic tasks from *The Americans* and *Pathways to the Present* were counted and totaled and then compared to all verbal tasks from the four texts selections. In addition, all linguistic tasks were compared to all logical/mathematical, visual/spatial, bodily/kinesthetic, interpersonal, intrapersonal, naturalist, combined-2, and combined-3+ tasks categories. These comparisons continued until all categories were compared against one another. Because no naturalist tasks were found in any of the sample textbooks, it is important to note that the comparison to naturalist to another MI category was impossible to analyze using the chi square. In addition, the combined-2 and combined-3+ categories were analyzed individually and then were collapsed together into an “any combined” category in an effort to see the effect of multiple combined MI tasks against single MI tasks within the four sample U.S. history textbooks. The findings are indicated in Table 2.

The results of the chi square analyses with an alpha of .0001 indicated that there was a statistically significant difference between linguistic or verbal tasks and all other categories. Linguistic or verbal was the only category which indicated a statistically significant differences between every single other category with linguistic or verbal tasks totaling 1,784 frequency counts among the four sample U.S. history textbooks. The next closest category, in terms of frequency, was the “any combined category” which was

comprised of the sum of the combined-2 and combined-3+ categories and totaled 593.

The remaining MI categories calculated frequency counts were as follows: spatial/visual (505), combined-2 (498), logical/mathematical (125), intrapersonal (97), combined-3+ (95), bodily/kinesthetic (39), musical (19), interpersonal (10), and naturalist (0).

Logical/mathematical tasks were shown to be statistically significant from all other categories with the exception of the combined-3+ category ($\chi^2(1) = 4.09, p = .04$) and the intrapersonal category ($\chi^2(1) = 3.53, p = .06$). Logical/mathematical tasks were calculated to be statistically significant from verbal/linguistic tasks, any combined, combined-2, musical, interpersonal, bodily/kinesthetic, and spatial/visual tasks. An example of a logical/mathematical task found in *America: Pathways to the Present* (2005) ask students to use “an almanac to find the percentage of eligible women voting in each of the presidential elections since 1920 and compare it with the percentage of eligible males voting. Students can show the statistics in a series of bar graphs or a table” (p. 637).

Spatial/visual tasks were calculated with a frequency count of 505 for the four sample U.S. history textbooks. An example of a spatial/visual task was found in the *America: Pathways to the Present* (1995) edition where in which the directions stated “ask students to create of political cartoon of Teddy Roosevelt” (p. 509). The results of the chi square analyses indicated statistically significant differences between the following categories: combined-3+ ($\chi^2(1) = 280.17, p < .0001$), musical ($\chi^2(1) = 450.76, p < .0001$), intrapersonal ($\chi^2(1) = 276.52, p < .0001$), interpersonal ($\chi^2(1) = 475.78, p < .0001$), bodily/kinesthetic ($\chi^2(1) = 399.18, p < .0001$), logical/mathematical ($\chi^2(1) = 229.21, p < .0001$) and verbal/linguistic ($\chi^2(1) = 714.65, p < .0001$). The only two

categories in which visual/spatial tasks were not statistically significant were combined-2 and any combined. The chi square analysis indicated there was not a statistically significant difference between the number of visual/spatial tasks at 505 and combined-2 tasks at 498 ($\chi^2(1) = 0.05, p = 0.83$) nor was there a statistically significant difference between the number of visual/spatial tasks at 505 and the any combined category at 593 ($\chi^2(1) = 7.05, p = .008$).

The results of the chi square analyses indicated there were statistically significant differences between bodily/kinesthetic tasks and all other categories with the exception of musical whose frequency count was 19 for the four sample texts ($\chi^2(1) = 6.90, p = .009$). Bodily/kinesthetic tasks were counted with a frequency calculation of 39 tasks between the four sample U.S. history textbooks. Statistically significant differences were found to exist between bodily/kinesthetic tasks and verbal/linguistic ($\chi^2(1) = 1670.34, p < .0001$), logical/mathematical ($\chi^2(1) = 45.10, p < .0001$), spatial/visual ($\chi^2(1) = 399.18, p < .0001$), interpersonal ($\chi^2(1) = 17.16, p < .0001$), intrapersonal ($\chi^2(1) = 24.74, p < .0001$) combined-2 ($\chi^2(1) = 392.33, p < .0001$), combined-3+ ($\chi^2(1) = 23.40, p < .0001$), and any combined ($\chi^2(1) = 485.63, p < .0001$) categories. Kinesthetic/bodily tasks include those types of tasks that ask students to perform a skit, role-play, or cook and assemble a dish from a different country. Kinesthetic/bodily tasks may also include tasks in which learners have to create models, dioramas, or other displays to capture an event, time, or place of historical significance.

Table 2: Chi Square Analysis of Research Question 2

	Any Combined (593)	Combined-3+ (95)	Combined-2 (498)	Naturalist (0)	Musical (19)	Intra-personal (97)	Inter-personal (10)	Bodily/Kinesthetic (39)	Spatial/Visual (505)	Logical/Mathematical (125)	Linguistic/Verbal (1784)
Linguistic/Verbal (1784)	596.75* 1784-593	1518.21* 1784-593	724.71* 1784-498	No Tasks	1727.80* 1784-19	1513.01* 1784-97	1754.22* 1784-10	1670.34* 1784-39	714.65* 1784-505	1441.74* 1784-125	
Logical/Mathematical (125)	305.05* 125-593	4.09 125-95	223.32* 125-498	No Tasks	78.03* 125-19	3.53 125-97	97.96* 125-10	45.10* 125-39	229.21* 125-505		
Spatial/Visual (505)	7.05 505-593	280.17* 505-95	0.05 505-498	No Tasks	450.76* 505-19	276.52* 505-97	475.78* 505-10	399.18* 505-39			
Bodily/Kinesthetic (39)	485.63* 39-593	23.40* 39-95	392.33* 39-498	No Tasks	6.90 39-19	24.74* 39-97	17.16* 39-10				
Interpersonal (10)	563.66* 10-593	68.81* 10-95	468.79* 10-498	No Tasks	2.79 10-19	70.74* 10-97					
Intrapersonal (97)	356.54* 97-593	0.02 97-95	270.25* 97-498	No Tasks	52.45* 97-19						
Musical (19)	538.36* 19-593	50.67* 19-95	443.79* 19-498	No Tasks							
Naturalist (0)	No Tasks	No Tasks	No Tasks								
Combined-2 (498)		273.88* 498-95									
Combined-3+ (95)											

* indicates statistically significant at the $p < .0001$ level:() indicates the number of tasks placed into the category and calculated for all 4 sample textbooks

Interpersonal tasks were counted at 10 for the frequency count tally and the results of the chi square analyses indicated that statistically significant differences were found in all categories with the exception of musical tasks ($\chi^2(1) = 2.79, p = .09$). The following categories were found to have statistically significant differences from interpersonal tasks: linguistic/verbal, mathematical/logical, visual/spatial, bodily/kinesthetic, intrapersonal, combined-2, combined-3+, and any combined. Intrapersonal tasks were counted at 97 for the frequency count tally and the result of the chi square analyses indicated there were statistically significant differences linguistic/verbal, visual/spatial, bodily/kinesthetic, interpersonal, musical, combined-2, and any combined. Both logical/mathematical tasks ($\chi^2(1) = 3.53, p = .06$) and combined-3+ tasks ($\chi^2(1) = 0.02, p = .88$) were not found to have statistically significant differences from intrapersonal tasks according to the chi square values. Interpersonal tasks were often paired with other tasks and were combined with an additional intelligence in order to perform the tasks. An interpersonal task was one that gave students the opportunity to work in partnerships or groups to complete the goal or perform the activity.

Musical tasks were tallied at a 19 frequency count between the four U.S. history textbooks sample, and the results of the chi square analyses indicated a statistically significant difference between musical tasks and linguistic, logical, visual, intrapersonal, combined-2, combined-3+, and any combined categories. The chi square analyses did not find a statistically significant difference between musical tasks and kinesthetic/bodily tasks ($\chi^2(1) = 6.90, p = .009$) and interpersonal tasks ($\chi^2(1) = 2.79, p = .09$). Musical tasks were those that incorporated the appreciated and/or recognition or musical patterns.

For example, in *The Americans* (2007), students were asked to examine the lyrics of the song, “Brother, can you spare a dime?” and then to explain the significance and mean of the lyrics. Furthermore students were asked to bring in recordings of the song (p. 674).

There were three types of combined categories: combined-2, combined-3+, and any combined. The combined-2 category consisted of two MI tasks found within the given task. For example, the task may have featured both an interpersonal component and a visual component. It is this type of task that could have been categorized as a combined-2 task. The combined-3+ category consisted of three or more tasks found within the given task. Lastly, the any combined category collapsed the combined-2 and combined-3+ categories into one single unit and comparisons were then made between each single intelligence category and the any combined category to search for statistically significant differences. For example, all linguistic or verbal tasks were compared first to combined-2 tasks, then to combined-3+ tasks, and finally to any combined tasks to search for statistically significant differences between the three areas. For all three areas (combined-2, combined-3+, and any combined), the chi square analyses indicated statistically significant differences between linguistic/verbal, bodily/kinesthetic, interpersonal, and musical. The combined-2 and any combined categories were found to have a statistically significant difference between logical/mathematical tasks and intrapersonal tasks; however, the combined-3+ category was not found to be statistically significant from logical/mathematical tasks ($\chi^2(1) = 4.09, p = .04$) or intrapersonal tasks ($\chi^2(1) = 0.02, p = .88$). The chi square analyses did indicated a statistically significant difference between the combined-3+ category and visual/spatial tasks ($\chi^2(1) = 280.17, p < .0001$); however, the combined-2 and any combined categories were not found to be

statistically significant when compared to visual/spatial tasks. The combined-2 category was found to be statistically significant from the combined-3+ category ($\chi^2 (1) = 273.88$, $p < .0001$) according to the analyses as indicated in Table 2.

Table 3: Chi Square Coefficients and Phi Coefficients for Research Question 2

	Any Combined (593)	Combined 3+ (95)	Combined 2 (498)	Naturalist (0)	Musical (19)	Intra-personal (97)	Inter-personal (10)	Bodily/ Kinesthetic (39)	Spatial/ Visual (505)	Logical/Mathematical (125)	Linguistic/ Verbal (1784)
Linguistic/ Verbal (1784)	596.75* .50	1518.21* .90	724.71* .56	No Tasks	1727.80* .98	1513.01* .90	1754.22* .99	1670.34* .96	714.65* .56	1441.74* .87	
Logical/ Mathematical (125)	305.05* .65	4.09 .14	223.32* .60	No Tasks	78.03* .74	3.53 .13	97.96* .85	45.10* .52	229.21* .60		
Spatial/ Visual (505)	7.05 .08	280.17* .68	0.05 .007	No Tasks	450.76* .93	276.52* .68	475.78* .96	399.18* .86			
Bodily/ Kinesthetic (39)	485.63* .88	23.40* .41	392.33* .85	No Tasks	6.90 .34	24.74* .43	17.16* .59				
Interpersonal (10)	563.66* .97	68.81* .81	468.79* .96	No Tasks	2.79 .31	70.74* .81					
Intrapersonal (97)	356.54* .72	0.02 .01	270.25* .67	No Tasks	52.45* .67						
Musical (19)	538.36* .94	50.67* .67	443.79* .88	No Tasks							
Naturalist (0)	No Tasks	No Tasks	No Tasks								
Combined-2 (498)		273.88* .68									
Combined-3+ (95)											

Note. * indicates statistically significant at the $p < .0001$ level

Table 3 reports the phi coefficients for the comparisons made based on Research Question 2 which analyzed the differences between each category of MI.

Research Question 3. The final analysis using the chi square value was geared toward answering Research Question 3, which asked, “Has the number of MI tasks recommended in the teacher’s editions of four widely adopted high school U.S. history textbooks changed between the mid-1990s editions and the more recent mid-2000s editions?” To answer the question, the four sample U.S. history textbooks were broken down by their titles with *The Americans* 1998 and 2007 editions being compared against one another and *Pathways to the Present* 1995 and 2005 editions being compared against one another. The total number of visual tasks was tallied through a frequency count for *The Americans* 1998 and was compared to the total number of visual tasks for *The Americans* 2007. The chi square analysis was then used to determine if there were any statistically significant differences. The process was repeated for all categories found in the Multiple Intelligences Textbook Analysis Rubric. This process was completed on both series of textbooks. The findings are reported in Table 4.

The Americans textbook series indicated a statistically significant difference between linguistic or verbal tasks between the 1998 and 2007 teacher’s editions ($\chi^2(1) = 46.08, p < .0001$). In the 1998 version of *The Americans*, 446 verbal tasks were counted while only 265 verbal tasks were counted in the 2007 version. Spatial/visual tasks were also found to indicate a statistically significant difference between the 1998 and 2007 editions ($\chi^2(1) = 19.30, p < .0001$) with 220 tasks counted in the 1998 version and 137 tasks counted in the 2007 version. The remaining categories of logical/mathematical, bodily/kinesthetic, interpersonal, intrapersonal, musical, combined-2, and combined-3+

were not found to have statistically significant differences in *The Americans* 1998 and 2007 teacher's editions.

Table 4: Chi Square Analysis of Research Question 3

	Frequency Count of The Americans 1998	Frequency Count of The Americans 2007	The Americans 1998 & 2007 Chi Square	Phi ϕ	Frequency Count of Pathways To the Present 1995	Frequency Count of Pathways To the Present 2005	Pathways to the Present 1995 & 2005 Chi Square	Phi ϕ
Verbal/Linguistic	446	265	46.08*	.25	497	576	5.82	.07
Logical/Mathematical	57	39	3.38	.19	10	19	2.79	.31
Spatial/Visual	220	137	19.30*	.23	31	117	49.97*	.58
Bodily/Kinesthetic	6	9	0.60	.2	12	5	2.88	.17
Interpersonal	1**	3**	1.0**	.5	1**	5**	2.67**	.67
Intrapersonal	46	21	9.33	.37	19	11	2.13	.27
Musical	7	4	0.82	.27	1**	7**	4.5**	.75
Naturalist	0	0	No tasks Found	n/a	0	0	No tasks found	n/a
Combined-2	141	196	8.98	.16	78	83	0.16	.03
Combined-3+	30	44	2.65	.19	8	13	1.19	.24

Note. * indicated statistically significant at the $p < .0001$ level

** indicated table cells were less than 5 and chi square may not be valid due to small sample size

The *Pathways to the Present* textbook series was found to indicate a statistically significant difference in only one of the MI categories according to the chi square analyses. The spatial/visual category showed a significant difference between the 1995 and 2005 editions ($\chi^2(1) = 49.97, p < .0001$). The 1995 spatial/visual category had a frequency count of 31 while the later 2005 edition had a frequency count of 117. The remaining categories of verbal/linguistic, logical/mathematical, interpersonal, intrapersonal, musical, bodily/kinesthetic, combined-2, and combined-3+ categories did

not point toward any significant differences between the 1995 and 2005 versions of the *Pathways to the Present* teacher's editions.

Summary

After developing the rubric and examining its validity and reliability through the implementation of an expert panel, the researcher was capable of analyzing the research questions to determine more about the effects of multiple intelligences theory in a sample of United States history textbooks. It was found that multiple intelligences theory and related tasks has impacted U.S. history teacher's editions to some degree. Both *The Americans* and *Pathways to the Present* textbook series were found to have more MI-directed tasks over non-directive tasks regardless of publication year. Textbook developers seemed to have incorporated MI-directed tasks into the sample of United States history textbooks reviewed.

However, when the researcher looked more closely at which specific multiple intelligences directed tasks have made the most impact on the available activities, it was overwhelmingly clear that linguistic/verbal tasks were leading the activities and tasks. Linguistic/Verbal tasks were more likely to appear on the pages of the sample textbooks when compared to any other intelligence category or combined intelligences categories. Furthermore, it was found that there were only a few categories in which significant changes had impacted the 1990s editions versus the more recent mid-2000s editions. Interestingly, *The Americans* saw a significant decrease in both verbal/linguistic and spatial/visual tasks between the nine year span, while the *Pathways to the Present* saw a significant increase in spatial/visual tasks between its ten year span. It appeared that

textbook publishers may be moving in different directions in terms of multiple intelligences tasks.

Chapter 5: Discussions, Conclusions, and Recommendations

With the current state of the social studies classroom being that of uninspired students using unexciting textbooks as their guide for learning U.S. history, many educators hope to seek improvements for student learning and textbook construction (Banks, 1990; Hope, 1996; NCES, 1993; Wakefield, 2006). With the theory of MI gaining popularity in the field of education, renewed hope exists for social studies to produce quality textbooks filled with differentiated instruction to reach all learners. With the state of Florida on the verge of adopting updated Social Studies materials for the 2011-2012 school year, the Florida Department of Education called for publishers to use research-based instructional materials that should “include specific strategies, teaching/instructional activities, procedures, examples, and opportunities for review and application consistent with current and confirmed research in social studies education and discipline specific literacy” (Florida Department of Education, 2010, p. 7).

Furthermore, the state defined instructional materials effectiveness in three major priority areas: content, presentation, and learning. With respect to the learning, the Department of Education stated that the following features have been found to promote learning: motivational strategies, teaching a few big ideas, explicit instruction, guidance and support, active participation of students, targeted instructional strategies, and targeted assessment strategies. Under the “Guidance and Support” feature, the department clearly called for textbooks for “be adaptable to developmental differences and various learning

styles” (Florida Department of Education, 2010, p. 81). Also, a variety of “modalities” for the various learning styles of students were requested such as “linguistic-verbal, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalist” (p. 82). These are clearly in line with Gardner’s MI theory and the goal is to have those frameworks integrated into social studies textbooks in the state of Florida.

While technological advances in education continue to gain ground, research continues to show that textbooks are the main curriculum guides in the classroom, especially in the social studies classroom (Banks, 1990; Chambliss & Calfee, 1998; Zevin, 2000). Textbooks are the most frequently used instructional material for both students and teachers and the amount of classroom time that students spend using textbooks is estimated between 75 to 90 percent (Florida Department of Education, 2008; Leischer, 2004; Wakefield, 2006). Textbooks serve at the backbone for instruction and curriculum in the classroom with teachers relying heavily on them as the planning tool for presentation and activities. Because of the dependency on textbooks in the classroom, the “teacher’s manual is a key presentation feature that can be a strong selling point, especially if well designed” during the adoption of new instructional materials (Florida Department of Education, 2008, p. 12). Furthermore, the Florida Department of Education (2008) states the teacher’s manual “contain instructional resources to support instructional strategies and activities” (p. 12).

Throughout the United States, the history classroom appears to be in turmoil. The National Assessment of Educational Progress (NAEP) results in the area of U.S. history show less than favorable progress for America’s fourth, eighth, and 12th graders

(National Center for Education Statistics, 2001). Many teachers feel that students are not tuned into social studies and students find the content boring and irrelevant (Hope, 1996; VanSickle, 1990). Young people are not engaged in classroom activities as often as hoped (Wakefield, 2006; Zevin, 2000). The question becomes: How can the history classroom and the student become motivated, challenged, and engaged in his or her own learning? With action research projects showing that MI-inspired curriculum is improving academic performance and raising student motivation in the classroom, it is possible the merger of a MI curriculum with the availability of textbooks could be the answer to some of the problems that the field of history is facing (Campbell & Campbell, 1999; Hickey, 2004; Kosky, 2008).

Based on the current state of apathy in the social studies classroom, dismal achievement results in social studies and history, and lack of engagement in the social studies classroom, it seems critical for educators to assess what is causing these negative forces to intrude on the history classroom and student learning and furthermore, how they can be alleviated in order for student achievement and motivation to progress? For this study, the theory of MI and the U.S. history textbooks are the focus. It appears that a major problem with U.S. history textbooks lies in the premise that not all intelligences are being targeted. Furthermore, the lack of focus on all intelligences could be a leading contributor to poor student performance and low achievement results because students with unique intelligences are often overlooked and ignored.

The purpose of this study was twofold. The study utilized a rubric for measuring the presence of MI-structured tasks in the teacher's editions of four 11th grade U.S. history textbooks. The tool was created first giving the researcher the capability to

analyze the types of tasks found within the teacher's editions of the history textbooks. Through the analysis of the types of tasks, the second purpose allowed the researcher to determine what types of MI-structured tasks were being offered in the teacher's editions and to distinguish what changes have occurred from early textbook editions to more recent textbooks in use.

The goal of this research was to shed light on the teacher's editions of U.S. history high school textbooks by developing a tool to measure the availability and presence of MI structured tasks in those particular texts. The central question to be addressed in this study was: Are the textbooks being used by teachers in secondary U.S. history classrooms presenting tasks promoting the MI framework in order to offer differentiated instruction to all students? More specifically, the following questions were investigated:

1. To what extent do the annotated teacher's editions' recommended activities in four widely adopted high school U.S. history textbooks reflect a multiple intelligences framework?

2. Are certain multiple intelligences more likely or less likely to appear in the teacher's editions' recommended activities of four widely adopted high school U.S. history textbooks?

3. Has the number of multiple intelligences tasks recommended in the teacher's editions of four widely adopted high school U.S. history textbooks changed between the mid-1990s editions and the more recent mid-2000s editions?

To address these research questions, a variety of strategies were employed. Using the years 1995 and 2007 as a purposeful sample of consistent authorships and similar

publications, the study looked that teacher's editions of four widely used high school U.S. history textbooks. Because there were no current tools or rubrics which categorize tasks found in U.S. history textbooks as part of the MI framework, the Multiple Intelligences Textbook Analysis Rubric was created to measure the availability and presence of MI tasks found in the teacher's editions. After the rubric was evaluated in terms of reliability and validity through an expert panel, the interrater agreement scores were calculated. The rubric analyzed the selected sections and/or chapters chosen by tallying frequency counts of MI/directive tasks and nondirective tasks. In addition, MI/directive tasks were categorized into one of the 10 available MI or combination categories as organized by this study.

A causal-comparative design was used to examine the influence of MI theory on the formations of activities found in the teacher's editions of U.S. history textbooks. A chi square test was used to analyze the data with respect to the categorical nature of the independent variables of the MI categories. Frequency counts were tallied. The chi square test was chosen to analyze the data as it is a "nonparametric statistical test to determine whether research in the form of frequency counts are distributed differently" (Gall et al., 2007, p. 325). The goodness-of-fit test measures how closely the "observed values of a sample fit an expected, ideal ratio" (White, 2001, p. 134). Phi coefficients were recorded to measure the effect size and quantify the strength of the relationship between the two dichotomous variables.

Discussion of Findings

The following is a summary of the findings for the research study with the results being discussed in detail in chapter 4.

Research Question 1. With respect to Research Question 1, the textbooks used in the sample do reflect a Multiple Intelligences framework with MI/directive style tasks appearing more frequently than nondirective tasks in the teacher's editions. These results are consistent with the most recent request by the Florida Department of Education (2010) for new textbooks to offer a variety of "modalities" to help reach all learners (p. 82). According to research, textbooks are seen as the integral part of the classroom and used for main source of information, ideas, materials, lessons, and activities (Banks, 1990; Zevin, 2000). Textbook publishers are giving teacher's ideas, activities, and guidelines for structuring lessons, planning curriculum, and implementing classroom events on a daily basis within the school day. Contributing to these directive styles activities are the research endeavors highlighting the effectiveness and importance of a MI framework within the classroom due to individual differences in students learning preferences, styles, and abilities. These must be taken into account in order for students to be successful in the history classroom across the United States.

With teachers, both experienced and inexperienced, using textbooks as the framework of the curriculum and instruction, textbooks are seizing the opportunity to use the teacher's editions as the mainstay for classroom activities that present a MI-directive framework. The sample textbooks are offering teachers a variety of activities that ask the students to produce a product, answer questions, or complete a specific job rather than simply having random questions outlining the wraparound text of the teacher's editions. *The Americans* (1998) had 953 MI/directive oriented tasks in the selected chapters and only 119 nondirective tasks which led to an 88.9% favoring of MI/directive framework over traditional nondirective when examining the 1072 tasks. With *The Americans*

(2007), the total number of tasks in the sample did increase with a total of 1279, the MI/directive count was 729 and the nondirective count was 540, yet the difference was still found to be statistically significant; there was a 57% difference between the MI/directive tasks and the nondirective tasks according to the selected chapters analyzed. With the years of 1998 and 2007 combined together, *The Americans* annotated teacher's edition textbook series had over 1650 MI/directive tasks in comparison with only 659 nondirective tasks which led to a 71.8% favoring of the MI/directive framework. *The Americans* tasks analyzed had a larger sample size when compared to *the Pathways to the Present*.

Ironically, the number of MI tasks from 1998 to 2007 shrank from 953 to 729 in *The Americans* and the number of nondirective tasks increased from 1998 to 2007, moving from 119 to 540 tasks. While still significant in terms of statistical testing, these numbers are interesting to note. With a large number of curriculum and activities moving into the technological age and supplementary materials, it is possible that the number of MI/directive activities has increased in the areas of CD Roms, study guides, workbooks, texts, binders, activity books, and other ancillary materials that almost always part of the company's selling features when marketing a history textbook. As Sewall (2000) states, "all who know educational publishing agree that ancillaries help sell a history textbook, even if they are consigned to the storage closet or used up after a year or two" (p. 11). Often, these marketing tool add-ons become the key decision makers in choosing one company over another, and teachers are often easy targets who are easily persuaded by free materials over quality textbooks. Sewall has found that many "larger districts expect

ancillaries at a discount or gratis. Customers sometimes pit one educational publisher against another” (Sewall, 2000, p. 11).

The 2010 Social Studies Specifications for the 2011-2012 Florida State Adoption of Instructional Materials published by the Florida Department of Education specifically requests that adopted textbooks series must contain “resources complete enough to address the targeted learning outcomes without requiring the teacher to prepare additional teacher materials for the course” (2010, p. 75). The specifications information goes on to list resources that the teacher and student should receive including references guides, simulations, role-playing situations, hands-on practice assignments, CDs, DVDs, PowerPoint presentations, adaptable software, worksheets, consumables, etc. The Florida Department of Education seems to have an exhaustive list of what is expected that a textbook series contain and supply in order to be deemed a contender in the textbook race. With textbook publishers providing more supplementary resources and support during adoption years based, it is likely that more MI/directive activities are showing up in the ancillary resources not analyzed through this study. Furthermore, it seems important from the Department of Education’s perspective that the call for instructional materials to meet varying needs is becoming an important call when evaluating a series. Specifically, the 2010 Florida Social Studies Specifications requests for “suggestions for adapting instruction for varying needs” and requests alternative approaches such a hands-on investigation, explorations, multi-sensory approached, adaptations to multiple learning styles, etc.” (Florida Department of Education, 2010, p. 76).

The Pathways to the Present series combined 1995 and 2005 totals of MI/directive tasks summed up at 1504 while the nondirective tasks were only 88 which

led to a 94% preference toward MI/directive tasks when examining the sample analyzed. The 1995 *Pathways* series contained 671 MI/directive tasks and only 6 nondirective tasks based on the chapter items analyzed which 99.1% favoring of an MI framework. The 2005 *Pathways* series contained 833 MI/directive tasks and only 82 nondirective tasks which led to a 91.04% favoring on an MI framework over the nondirective style tasks in the teacher's editions.

The *Pathways to the Present* series saw an increase in the number of MI-directive tasks from the 1995 edition to the more recent 2005 edition climbing from 671 MI tasks to 833 MI tasks. While a smaller sample size was found in the *Pathways to the Present* series, a MI framework was present and grew from the previous edition.

Based on those large differences, U.S. history textbooks are reflective of a MI-directive framework that seems to coincide with what we already know about to students of each having a “different set of strengths and talents” (Greenhawk, 1997, p. 62).

Applying a multiple intelligences framework in the U.S. history textbooks will seek

to help students understand their abilities, to show students to use their strengths to learn and to work on their weaknesses, to build students' confidence so they would be willing to take risks, and to help students learn more by providing unforgettable learning experiences. (Greenhawk, 1997, pp. 62-63)

All stakeholders in the educational arena would agree that they want students to learn, excel, and be successful participants in society, and MI theory is a unique and powerful way to enable students to improve performance and success. High school U.S. history textbook publishers are embracing MI-directive type tasks over nondirective tasks to help students and teachers alike. However, the next and possibly more important step is to

look to see what MI is being favored over others in the teacher's editions of U.S. history textbooks.

Research Question 2. This portion of the study was conducted to determine if certain multiple intelligences were more likely or less likely to appear in the teacher's editions' of the four sampled widely adopted high school U.S. history textbooks. Interestingly, Research Question 1 was able to ascertain the MI tasks were, indeed, prevalent in these books over nondirective nonspecific type tasks; however, it is important to determine if certain multiple intelligences are more predominant than others in the U.S. history textbooks. Could it be that really only verbal/linguistic tasks are what is most predominantly found in high school history textbooks or are the 8 MI equally or somewhat equally represented in a manner that works to reach a variety of student learners?

Linguistic or verbal tasks were more likely to appear in the high school U.S. history textbooks sampled over all other categories. Linguistic tasks are those that involve reading, writing, and may ask a student to read a passage, write a letter, research a specific topic, define a term, explain a concept, ask about a concept or idea, analyze a concept, create an outline, review a primary source document, or answer the section review questions. By their very nature, history textbooks are linguistic or verbal authorities filled with reading material and information that are snapshots of the country's past. In order to organize information into sequence and allow for efficient content mastery within a school year, it is somewhat understandable that linguistic or verbal tasks would rank on or near the top based on the construction and very real nature of history textbooks in general. With the four sample textbooks combined, there were 1784

verbal/linguistic tasks found in the chapters analyzed representing about 56% of the activities in the sample. When summed together, the combination of the other seven intelligences (logical, spatial, kinesthetic, interpersonal, intrapersonal, musical, and naturalist) only accrued 795 tasks in the four texts representing only 25% of the activities. The remaining 19% of the activities were represented with combined-2 or combined-3+ categorization. Not only were verbal/linguistic tasks were predominant in the sample textbooks, they were over twice as likely to appear over any other single intelligence. When combining and including the combined-2 and combined-3+ categories, the total for all categories with the exception of purely linguistic or verbal categories, the total was 1388 tasks which still meant that linguistic tasks were more likely to occur than any single or combined categories of MI. Linguistic or verbal activities are offered in the annotated teacher's editions of U.S. history textbooks with considerably less attention and less activities given to the other types of intelligences.

With Gardner's theory implying that all intelligences are needed to function in society, it is important that teachers, textbook publishers, and policy makers to think of all intelligences as equally important (Brualdi, 1996). While the traditional U.S. educational system valuing and emphasizing verbal/linguistic intelligences, educators may be overlooking a large number of students whose verbal intelligence is simply not that high.

Trailing behind linguistic intelligence as the second most found intelligence in U.S. history textbooks were visual/spatial activities. Visual tasks summed 505 combined among the four texts which were 15.9% of the activities sampled. Visual tasks were more likely to appear than musical, interpersonal, intrapersonal, kinesthetic,

logical/mathematical, and combined-3+. These visual/spatial activities often involve the ability to develop a mental and/or literal image or chart or organizer with tasks such as analyzing a photograph, analyzing a cartoon, reviewing a map, creating a chart, completing a graphic organizer. For example in *America: Pathways to the Present* (2005), students were asked to complete a graphic organizer on Big Business (p. 467). In today's visual society, learners are bombarded with images from the internet, social media, television, iPads, iPods, and marketing so the need for textbook publishers to participate in the visualization of history textbooks seems likely. With respect to textbooks, publishers are asked to organize instructional materials clearly with a visible structure and format that include headings, subheadings, typographic cues, borders, boxes, highlighting, visual signposts, icons, diagrams, graphs, labels, maps, charts, and other visual representations (Florida Department of Education, 2010). In addition, primary sources and secondary sources such maps, photographs, relics, artwork, film footage, etc. are important pieces of understanding the history and culture of the United States so it is important that these types of sources are readily available for student viewing and activities are designed around their meaning and function.

The combined-2 category appeared as the third most likely to appear in the sample books falling shortly behind visual/spatial intelligence. For purposes of the study, the combined-2 category described a task in which two MI tasks are found within the task. For example, an activity might have both an interpersonal component and a verbal/linguistic component. Instead of putting that activity into just the interpersonal count and/or just the verbal count, the activity was classified under the combined-2 group. For example in *America: Pathways to the Present* (1995), students were asked to

create a skit in small groups illustrating how a piecework system favors the employer. Students had to incorporate the performance of the task as well as pay per task, pay scale, marketability, and quality control into their skits (p. 400). Because the task dealt both with interpersonal intelligences involving group work and kinesthetic/bodily intelligence involving the performance of the skit, this type of task was categorized in to the combined-2 category. There were 498 combined-2 tasks, which accounted for 15.7% of the activities sampled. Combined-2 tasks were more likely to appear than combined-3+, musical, interpersonal, intrapersonal, bodily/kinesthetic, and logical/mathematical. With a focus on strategies that reach all learners and incorporate a variety of different learners, tasks will often contain more than one intelligence and ask learners to engage a couple types of intelligences in order to perform the job or create the product. When thinking of interpersonal tasks which involve learners working in groups or cooperatively, it is likely that there will be another dimension to that activity rather than simply getting in a group as not much can be assessed or produced by simply getting together with another learner. Rather, the task will include cooperative groups in order to produce a poster or create a model which is likely to involve another intelligence.

Logical/mathematical tasks appeared as the fourth most likely intelligence to appear in the sample books, trailing linguistic and visual activities as individual categories and the combined-2 category as well. Logical/mathematical tasks are those involving the ability to carry out problems in a logical manner. Activities associated with logical/mathematical intelligence may include timelines, listing in chronological order, bar charts, pie charts, or graphs; students may also be asked to use an almanac to find percentages or perform mathematical tasks. In *The Americans* (1998), students were

asked to create timelines and fill in events in chronological order (p. 717). There were 125 total logical/mathematical tasks within the four sample teacher's editions constituting only 3.9% of the intelligences categories. Logical/mathematical activities were more likely to appear than musical, interpersonal, and kinesthetic/bodily. While both logical/mathematical and verbal/linguistic activities are often viewed as the most valued in American education, a relatively low number of logical tasks were found in these U.S. history textbooks. While there is a call from the Florida Department of Education to incorporate charts, graphs, timelines, the answer to the relatively low number of logical/mathematical tasks found in the textbooks analyzed may be in the lack of activities associated with these figures.

While timelines and graphs are incorporated into both the teacher and student editions of books, simply putting an item on the page does not really constitute an activity. Without some clear, direct instructions for the teacher to engage the student, the item was considered a nondirective task. Logical/mathematical tasks must engage the student by asking them to put events into a chronological sequence or interpret the results as presented in a graph or chart when presented in the teacher's annotated edition (TAE). Otherwise, the information is simply another display in an ever-growing TAE as described by Sewall (2000) as "bright graphics and seductive color overwhelming the text and confusing the page" (p. 5).

The remaining categories of intrapersonal, interpersonal, bodily/kinesthetic, musical, naturalist, and combined-3+ accounted for less than 8% of the total activities found in the sample textbooks. While intrapersonal tasks were totaled at 97, representing 3% of the sample, interpersonal totaling 10 tasks represented a trifling 0.3% of the

sample. Bodily/kinesthetic tasks were totaled at 39, which represented about 1.2% of the sample and musical represented 0.5% of the sample, with only 19 total tasks across all four texts. The combined-3+ category represented 2.9% of the sample with a total of 95 tasks. Naturalist intelligence was not found in any of the four sample textbook chapter selections.

Many students in the educational setting would identify with having one of these less valued intelligences as their preference for understanding content. Research has indicated that implementation of MI framework into the classroom can positively impact student learning in terms of performance, motivation, student interest, and academic achievement (Gardner & Hatch, 2000; Hickey, 2004; Mettetal et al., 1997).

While there may be a call for more varying curriculum and activities to be represented within history textbooks, between the years of the mid-1990s to the mid-2000s linguistic or verbal tasks dominated the TAE. Because of the nature of the textbook years examined, the next effort was to determine if there was a change in number of MI tasks from the mid-1990s to the mid-2000s?

Research Question 3. Based on the findings for Research Question 3 which looked at any potential change from the number of MI tasks found in the mid-1990s editions to the more current mid-2000s editions, there were 3 categories that saw changes in the number of tasks between the years. There was a decrease in the number of verbal/linguistic tasks and spatial/visual tasks found in *The Americans* textbook series between 1998 and 2007. There was only one increase found in all categories analyzed and that increase was in the spatial/visual tasks in the *Pathways to the Present* textbooks

series from 1995 to 2005. No other categories were found to have major, significant increases or decreases between the span of editions.

In *The Americans* textbook series, a significant decrease was noted on both the number of verbal/linguistic tasks and spatial/visual tasks. In *The Americans* 1998 edition, there were 446 verbal/linguistic tasks while that category fell to 265 tasks in the later 2007 edition. The drop in the tasks represented at 40.6% decrease between the 9-year span. The visual/spatial category also fell from the 1998 to the 2007 edition from 220 to 137 tasks, respectively, representing a 37.7% decrease in the number of visual tasks. Interestingly, one might assume that if one category is decreasing then another category might be increasing in order to maintain the same number of overall tasks between the editions; however that was simply not the case with *The Americans* series. Overall, the total number of MI tasks decreased between the 1998 and 2007 editions. Many of the other categories including logical, intrapersonal, and musical, while not statistically significant, also saw a decrease between the 1998 tasks and the 2007 tasks. The reason for the decrease could have occurred using information from Research Question 1 which showed that the between 1998 and 2007 the MI/directive tasks shrank in comparison to the nondirective category which increased in the 2007 edition. Instead of adding more nonlinguistic or nonvisual MI tasks, the publishers added more nondirective tasks to the teacher's editions of *The Americans*. Essentially less MI/directive tasks were added with even smaller amounts of diversity between the 10 categories used in this study.

In the *Pathways to the Present* textbook series, an increase was found only in the visual/spatial category which rose from 31 tasks in 1995 to 117 tasks in 2005 representing whopping 277% increase over the 10-year span. Differing from *The*

Americans series, the number of overall MI/directive tasks increased from 1995 and 2005, though only the visual area produced results that were significant. Other categories including verbal, logical, combined-2, and combined-3+ all increased in their tasks offering yet not at a significant level. In the *Pathways to the Present* textbooks series, the publishers were adding more MI/directive tasks especially in the area of visual/spatial activities which could be attributed to the increase in the visual marketing of textbooks including more graphics, pictures, maps, primary sources, etc. for teacher usage during class activities to help engage the students by examining a visual item based on its historical importance.

While difficult and nearly impossible to make assumptions and conclusions based on a sample of four U.S. history textbooks, it is clear that there are some overlaps as well as differences occurring. There is, indeed, a MI-directive framework inside the sample activities of the teacher's annotated edition in United States history textbooks when compared to nondirective type tasks. Both *The Americans* and the *Pathways to the Present* showed a MI-directive plan in the analysis. However, even though there are activities or jobs in which the teacher is requiring the student to do a specific job, to answer questions, to perform a behavior or to produce a product, the majority of these activities are linguistic or verbal activities within the textbooks. Trailing behind are visual/spatial activities with even less variety and logical/mathematical tasks are rounding out the available choices leaving the kinesthetic, musical, naturalist, intrapersonal, and interpersonal learners little choice in activities geared toward their intelligences. Furthermore the increase of visual tasks in the *Pathways to the Present*, and the decrease

of verbal and visual tasks in *The Americans* seems to do little to help those learners listed above who are left out of the fringe of most textbook activities.

Conclusions and Implications

The results indicate that U.S. history textbooks have heeded the multiple intelligence call and are using an MI/directive framework to plan the annotated teacher's editions giving teachers and students clear directions to produce tasks that focus on learning rather than simply filling the wraparound text with random questions and ideas that teachers are unsure and not confident in implementing into the classroom scenario. The annotated teacher's editions were found to have MI/directive activities that help the teacher to bring the curriculum to life in the classroom and help student engagement and success; however, most of these activities were linguistic or verbal in categorization of which intelligence they are aimed at engaging. Unfortunately, most learners are not linguistic or verbal learners so while there may be a large number of activities to choose from; most of them being aimed at only one intelligence essentially leaves little choice at all for teachers and students alike when evaluating the teacher's editions of history textbooks. Even with history curriculum and textbooks themselves being linguistic sources by their sheer make-up, they still lack a variety of tasks to reach all learners.

There seems to have been little change between the variety of tasks in the mid-1990s editions and the mid-2000s editions of the textbooks selected. Both textbooks series had a propensity to be linguistic or verbal heavy while skimming on other intelligences such as musical, kinesthetic, intrapersonal, intrapersonal, and logical/mathematical. While it may be argued that other intelligences are found in ancillary and secondary materials, which is quite possible, it is also possible that

linguistic or verbal tasks have always been and remain the intelligence of choice when producing U.S. history textbooks. It is true that adding more tasks of a variety of intelligences would take time, effort, time, and quite possibly, a whole new shift in textbook design and production. However, with the current state of U.S. history and the field of social studies, it is important to realize that a change is required if students are going to be successful in the subject area and fulfill the goal of becoming productive, engaged citizens upon graduating. With the 2010 National Assessment of Educational Progress being recently released in June 2011, there were no significant changes for fourth or 12th graders at the basic level when compared to the 2006 NAEP schools in United States history achievement. Furthermore, there were not significant changes or improvements with students in Grades 4, 8, or 12 when compared to the 2006 scores at the Proficient level or at the Advanced level (National Center for Education Statistics, 2011). Unfortunately, the NAEP in U.S. history achievement seems to solidify that little progress is being made in elementary, middle, and high schools around history classrooms in the United States.

In addition, teachers need activities, resources, and help to “deal with diverse learning styles and disparate needs, and ongoing professional development offering training in effective instructional practices and current research on teaching and learning” (Jorgenson, 2006, p. 2). Jorgenson (2006) cites MI theory as one of the major instructional innovations that matter in the recent past and one that “transcends fads and jargon that all K-12 educators should understand and fold into their teaching” (p. 2). With the prioritization of linguistic and sometimes logical intelligences in most U.S. schools, many, in education, fail to notice the gifts, talents, aptitudes, and intelligences

that many other children possess by excluding their intelligence preference from everyday classroom tasks and activities. Adding more variety and intelligences to tasks in the history classroom will further grow our understanding of what success means in the school setting and allow educators, publishers, curriculum designers, parents, and students to re-think curriculum, assessment, and educational progress. As publishers and teachers know, the teacher's manual is a strong feature and selling point of any textbook series containing instructional resources, strategies, and activities. Textbooks should contain quality and powerful activities, and tasks that engage a variety of intelligences and modalities for true learning and increased academic performance to occur.

The findings of this study led to the overall conclusion that the frequently adopted and used U.S. high school history annotated teacher's editions do contain more MI-directive tasks over those nondirective tasks; however, the overwhelming majority of these MI-directive tasks are linguistic or verbal intelligence oriented. The linguistic or verbal nature of the majority of these tasks leaves out other types of intelligences and forces the teacher and students to receive most instruction and activities geared around the linguistic intelligence.

It is overwhelmingly clear that the states of California, Florida, and Texas led the way for state-adoption practices throughout the United States due their size and power (Sewall, 2000). The "big three" in the state adoption process give much power to the departments of education, pressure groups, and lobbyists, leaving the classroom teacher and individual school districts with little choice after a prescribed list is adopted by those states. Hence publishers invest millions for their textbook series to make it on the state adopted list. While many teachers would prefer to select their own materials and state

adoption does not guarantee quality, the process is foundation for textbook selection in the state of Florida (Sewall, 2000). It is possible with the recent call from the state of Florida for instructional materials to be adaptable to differences and employ variety of modalities for the various learning styles of students such as linguistic/verbal, logical, musical, spatial, kinesthetic, interpersonal, intrapersonal and naturalist that textbook publishers will begin to create more diversity within textbook activities and tasks which will benefit teachers and students (Florida Department of Education, 2010).

It can be implied from these conclusions that textbook publishers have not embraced multiple intelligences theory whole-heartedly in terms of curriculum/textbook design as many intelligences are being left of the teacher's editions tasks, and few significant changes have been noted from the mid-1990s to the mid-2000s editions of history textbooks. With much research focusing on the importance of differentiated instruction, learning styles, multiple intelligences, and other pedagogical calls for reaching all learners, it is hoped that textbook publishers, curriculum designers, and authors would vary activities found in the mainstream curriculum such as the teacher's edition of history textbooks. Activities such as simulations, role-plays, and interpersonal and intrapersonal scenarios would begin to reach more learners in history classrooms and would be a likely solution in order to begin meeting the needs of all students.

Digital Textbooks and the Future of MI inclusion

While this study focused on the use and presence of traditional U.S. history textbooks and teacher's editions of those texts, it is important to note the increasing popularity and rise of electronic textbooks and digital media into the field of education. With the onset of the Kindle, iPad, and other tablet models, the landscape for books is

changing at a rapid rate, and some school districts have moved toward a more digital framework in their schools and classrooms. In the state of Florida, the state education officials have a “five year proposal for all students in K-12 to use only electronic materials delivered by Kindles, iPads, and other similar technology by 2015” (Sokol and Solocheck, 2011, para 3). Some schools in Pinellas County, Florida have already handed out e-readers for students to use in lieu of traditional print textbooks.

While electronic textbooks represent less than 10 percent of the textbook market in elementary and secondary schools, it is a growing industry with many districts testing digital books in select schools to determine the potential benefits before embarking on a possible complete transformation (Brown, 2011). Electronic textbooks offer the possibility of incorporating more MI activities into the classroom if utilized correctly with students being offered more games, more simulations, more interactivity than possibly ever before. It will be interesting to see what the impact of digital textbooks has on the field of social studies education, specifically on the curricular tools that are available for both the teacher and students. Most importantly will future research endeavors show possible positive impact on student engagement, motivation, and achievement tied to the digital textbooks and resources? Only time, technology, and teaching will tell.

Recommendations to Researchers

This study raises several possible avenues for further exploration in the areas of MI and textbooks series. While this study was primarily concerned with the high school U.S. history textbooks and the availability of MI tasks in the annotated teacher’s editions, another possible study could investigate the tasks in elementary history or social studies

textbooks or middle school history textbooks to determine the availability and magnitude of MI tasks found within each of them. In addition, a closer and more in depth examination of other pieces of the textbook series with respect to some of the ancillary and secondary resources that include, but are not limited to, workbooks, CD-ROMs, student activity guides, technological resources, and study guides could be conducted to determine the presence of an MI framework.

Although this study focused on four textbooks widely used in state-adoption areas, it is worth exploring other textbooks series and publishers that may not be as well-known or popular to determine their approach to MI and how it is shaping or not shaping their creations. For example, are there smaller publishers and textbook series that produce more MI-friendly textbooks yet may not have the financial well-being or overall glitz to compete in a state adoption process?

Another avenue of research is to move beyond the pages of the annotated teacher's editions and examine teacher use of these activities. What tasks/activities are teachers actually using from these selections to incorporate into their teaching strategies? Are teachers more likely to pick linguistic or verbal tasks even when given the alternative and option to use a variety of intelligences styles? Do teachers feel uncomfortable straying from the ever-present linguistic activities to try to engage more learners in their classrooms? Are teachers taking into account the variety of intelligences in their classrooms in order to pull meaningful and productive tasks? One recommendation to researchers is to reexamine the tasks and activities in the annotated teacher's editions of U.S. history textbooks and to urge publishers to consider the needs of all intelligences and students in the U.S. educational system.

An important next step of continuing this current research with history textbooks is to launch into an area of research that will determine how the high school history teacher actually uses the annotated teacher's edition as a source for curriculum planning. Since the current research study found what the annotated teacher's edition contains in terms of MI tasks, it is important to follow up to find out exactly how teacher's are using these activities in the history classrooms. Through teacher observations, teacher interviews, and further investigation, another possible research endeavor exists in finding out how teachers use these guides as a source of curriculum planning, lesson design, and classroom activity.

With the advent and growing popularity of e-readers and electronic textbooks, another area of research would be complete a replication study to reexamine the tasks and activities using electronic and digital text materials to determine if MI has effected or infiltrated the digital pages of teacher's editions of textbooks and possible student editions as well. With the virtual world allowing for interactive field trips, games, simulations, and a whole host of possible MI geared activities, a study examining the effects of the digital age on textbooks in terms of multiple intelligences theory would be an interesting endeavor.

Recommendations to Publishers

While the debate concerning the adoption process of textbooks is unlikely to subside, textbooks will likely continue to be the most frequently used instructional material in the classroom, especially in the history and social studies. Sewall (2000) put is best in stating that "a standard student textbook and teacher's annotated edition (TAE) remain predominantly the sources of most classroom teaching and learning" (p. 4). With

teacher demands and responsibilities increasing, it is imperative and essential that publishers construct textbooks that allow teachers more variety in the learning tasks to meet the needs of an ever-changing diverse classroom of students. The textbook publishers must go beyond or potentially forego creating a plethora of ancillary materials that may not be used by the classroom teacher and instead create a quality TAE that matches the diverse needs and intelligences of our learners. Students come from a variety of backgrounds, learning styles, and intelligences, and curricular materials must be ready and capable of meeting those demands and diversity in their products sold to states and districts all over the United States.

Publishers need to examine their materials and textbooks to determine if the activities are geared toward reaching all intelligences or at least attempting to contain a variety of tasks; rather than continuing to let the linguistic or verbal one size fits all model control the market. As stated by the Florida Department of Education (2010), “publishers often cave in to pressures from peripheral single-interest groups” (p. 21). It is of the utmost importance that the needs of the districts, schools, teachers, and students all are weighed and taken into consideration as well as the state and pressure-group influences and demands.

Recommendations to Policy Makers

If policy makers, like the Florida Department of Education, are going to insist and require that the social studies instructional materials contain a variety of activities targeting different modalities of learners, the materials are going to have to be evaluated before the state adoption process by competent, trained, professionals who are able to assess quality and excellence. All too often textbooks series are evaluated by committee

members who lack the time and/or the expertise to judge a quality product from an inferior one. Flashy treatment may be seen as valuable; when in reality the textbooks activities and tasks are only sub-par lacking choice and variety rather than solid, quality, research-based instructional design. Often designed as the “rule of thumb test,” policy makers often rate textbooks on their attractiveness, organization, and overall presentation prior to thoroughly reviewing the program (Florida Department of Education, 2010, p. 23). Fanning and scanning through pages should never be used as actual review of a textbook for its tasks/activities or content. All components should be reviewed including presentation, content, learning strategies, and activities. Furthermore materials should be reviewed from both the teacher’s perspective and the student’s perspective as both are important users of the product.

In order to reach all learners in the U.S. history classrooms, a greater effort must be made to create tasks and activities within textbook series that target all intelligences as determined by Gardner. Furthermore, it is necessary for teachers and students to use these tasks and activities in the classroom to help increase academic success and educational performance. The potential benefits of MI infusion in the curriculum cannot be fully realized or understood unless textbooks, a key curriculum tool, begin to include MI tasks and a variety of learning options.

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Appendix A: Multiple Intelligences Textbook Analysis Rubric

Appendix A								
Multiple Intelligences Textbook Analysis Rubric								
	Book:			Year:				
	Chapter:			Section:				
Part One:								
Types of Tasks:			Non Directive Task:			MI/Directive Task:		
			Tasks that do not give the teacher specific instructions and require no interaction with the student.			Tasks in which the teacher is requiring the student to perform a behavior, to answer a question, or to produce a product.		
Total number found within section:			=			=		
Part Two: MI/Directive Tasks								
Categories								
	Verbal/ Linguistic	Logical/ Mathematic	Visual/ Spatial	Body/ Kinesthetic	Musical	Inter- personal	Intra- personal	Two Combined
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Page #								
Total in each category:								
	Verbal/ Linguistic	Logical/ Mathematic	Visual/ Spatial	Body/ Kinesthetic	Musical	Inter- personal	Intra- personal	Two+ Combined
Notes for section:								

Appendix B: Steps to Expert Panel Analysis of MI Textbook Analysis Rubric

Step 1: Orient to study- (Read from script below)

The purpose of this study is to design a rubric for measuring the availability and magnitude of multiple intelligences structured tasks in the teacher's editions of four 11th grade American History textbooks. The study will look at the teacher's editions of the American History textbooks to create a reliable and valid rubric for measuring the availability and magnitude of multiple intelligences tasks in the teacher's editions of four history textbooks. The researcher will then analyze trends of tasks offered in the teacher's editions of the history textbooks to determine whether multiple intelligences tasks are being offered in the teacher's editions of the social studies textbooks and furthermore, will determine to what extent certain intelligences are being targeted over other intelligences. Essentially, the researcher will be looking to see if changes have occurred in textbook tasks since the inception of MI theory.

Step 2: Review Multiple Intelligences Theory- (Read from script below)

Departing from more traditional views of intelligence, Gardner (1983) proposed in his book *Frames of Mind* that intelligence must be more than a number attached to an individual after prescribing a short answer test. He proposed his theory of multiple intelligences which rests on the foundation of seven intelligences that human beings possess. Gardner believes that individuals have different mental strengths and solve problems in a variety of different fashions depending on those strengths. Furthermore, those mental strengths translate into an array of different learning styles for individuals. The original seven intelligences are linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, and intrapersonal. More recently in his book *Intelligence Reframed*, Gardner (1999), proposes the existence of two new intelligences: naturalist and spiritual-existential intelligences.

The first two intelligences, linguistic and logical-mathematical, are those that have been traditionally valued in schools in Western cultures. Traditionally, one is thought to be a good student if he/she possesses high linguistic and/or mathematical skills. Linguistic intelligence involves a mastery of language, both the spoken and written word. For example, language is used to remember information as well as a means to accomplish goals. Logical-mathematical intelligence involves the ability to think analytically, logically, and deductively (Brualdi, 1996).

The next three intelligences are noticed more in the realm of the arts. Musical intelligence involves a proficiency in the composition and an appreciation of musical patterns and rhythms. Bodily-kinesthetic intelligence is the ability to use one's body or body movements to solve problems. Spatial intelligence involves the aptitude to create mental images and manipulate patterns to solve problems (Gardner, 1999).

The last two intelligences are known as the personal intelligences. Featured within the personal intelligences are the interpersonal intelligence and the intrapersonal intelligence. Interpersonal intelligence is skill of being able to work well with others by understanding other's motives and desires as well as being able to communicate with them. The intrapersonal intelligence involved the ability of one to understand one's own feelings and desires and furthermore to use this information to effectively regulate one's life (Gardner, 1999). The most recently added intelligence is that of naturalist

intelligence. Naturalist intelligence involves the ability to make distinctions between objects as well as classify numerous species (Truab, 1998).

Step 3: Overview of Tasks-nondirective, MI directive, categories-

See the “Task and multiple intelligences categorization sheet” provided. Allow time for questions if needed.

Step 4: Practice categorization of tasks and use of rubric-

Provide a practice rubric sheet for all experts. Use 5 to 7 practice items. See “Practice Tasks to Analyze” handout. Review and discuss answers. Allow time for questions if needed.

Step 5: Complete “Expert Panel Tasks to Analyze” which is the 20 preselected tasks-

Provide experts with “Expert Panel Tasks to Analyze” handout and “MI Textbook Analysis Rubric.” Answer questions if needed and allow time for discussion.

Step 6: Calculate interrater agreement scores.-

Appendix C: Task and Multiple Intelligences Categorization Sheet

Part One: Nondirective task or Multiple Intelligences Directive Tasks

Multiple Intelligences Directive Task: an activity or job in which the teacher is requiring the student to do a specific job, to answer questions, to perform a behavior or to produce a product. The important function is that the student is being asked to produce something in terms of his or her learning. Example: Explain students that the Indian Removal Act affected peaceful Native American groups. Ask the students to assume viewpoints of the members of the Southeastern tribes and write letters to Andrew Jackson. From this example, one can see that the teacher is requiring the student to perform a written task.

Nondirective Task: an activity that does not specifically ask the teacher to perform a job and in turn the student cannot perform a task because the teacher was not asked to do so. A nondirective task might appear as a single question in the teacher's wraparound section of the textbook. Example: Who were the "five civilized tribes" and where did they live? What was the Indian Removal Act of 1830?

Part Two: Multiple Intelligences Directive Tasks and Categorization

Logical/Mathematical: ability to carry out problems in a logical manner; Tasks associated with logical/mathematical intelligence may include timelines, listing in chronological order, bar charts, pie charts, or graphs; students may also be asked to use an almanac to find percentages or perform mathematical tasks.

Verbal/Linguistic: ability to that which is written and/or spoken; producing language, reading, writing; Tasks may include reading, discussion, write a letter, research a specific topic, define a term, explain a concept, ask about a concept or idea, analyze a concept, create an outline, review a primary source document, answer the section review questions, give a presentation.

Visual/Spatial: ability to develop a mental and/or literal image or chart or organizer; Tasks may include analyzing a photograph, analyzing a cartoon, reviewing a map, creating a chart, completing a graphic organizer.

Musical/Rhythmic: ability to appreciate and recognize musical patterns; Tasks may writing an original song, listening to a musical composition, analyzing song lyrics, searching for songs, performing a musical piece.

Bodily/Kinesthetic: ability to use the body to solve problems with a task and tasks that are grounded in more "real-life" activities; Tasks may include performing a skit, role-play, or simulation or cooking a dish from a native country.

Interpersonal: ability to work with other people; Tasks may include working in pairs, partners, groups, cooperative learning.

Intrapersonal: ability to understand one's self; Tasks may include writing a personal reflection, engaging in self reflection, what would you do type questions, how would you feel, how would you react, how would you decide?

Naturalist: ability to observe, understand, and organize patterns in the natural environment; tasks may include keeping a notebook, organizing collections, observing nature, and collecting data.

Combined-2: a task in which two multiple intelligences tasks are found within the task

Combined-3+: a task in which three or more multiple intelligences are found with the task

Appendix D: Practice Items for Expert Panel

Directions: Read the task carefully. Decide whether it is a nondirective task or MI directive task. If it is a nondirective task, mark a tally in the appropriate box on the rubric. If it is a MI directive task, mark a tally in the appropriate box on the rubric and then categorize in the appropriate MI category provided by marking an X in the box.

Reminder: If a task has more than one multiple intelligences present, it will be categorized as Combined-2 or Combined-3+.

Task 1: Have students study the map of Amelia Earhart's last flight. Then have them create similar annotated maps of Charles Lindbergh's famous 1927 solo flight from New York to Paris. (America Pathways to the Present, 2005, Chapter 20, Section 1, page 689)

Task 2: Ask students to research some of the new products developed by the petrochemical industry during the war, such as artificial rubber, nylon, and plastics. Suggest they find out why these new products were needed. (America Pathways to the Present, 1995, Chapter 25, Section 1, page 694)

Task 3: Have students work in groups to research the causes and symptoms of black lung disease, mine explosions, and collapses, and other disasters. Students should assemble three or four basic facts on their topic. Then they should illustrate their information, place it in a chart, and report it back to the rest of the class. (The Americans, 2007, Chapter 17, Section 3, page 527)

Task 4: What do students think were the biggest challenges faced by the US, as a whole, and by southern states in particular, as the country tried to reunite and recover from the Civil War? (America Pathways to the Present, 2005, Chapter 12, Section 3, page 437)

Task 5: Ask students what they would do if they saw a fight break out on the far side of the schoolyard and they didn't know any of the people involved. (The Americans, 1998, Chapter 24, Section 2, page 706)

Task 6: Divide the class into small groups. Make sure there is at least one student with internet research skills in each group. Ask students to use research materials and the Internet to identify popular American songs during the year just before and after American's entry into WWII. Have students find recordings of some of these songs to play for the class. (The Americans, 2007, Chapter 24, Section 4, page 760)

Task 7: Have students consult an almanac to determine how many hours a cowboy was in his saddle, from dusk to dawn, if the long drive took place in early summer. (The Americans, 1998, Chapter 13, Section 2, page 392)

Appendix E: Expert Panel Tasks to Analyze

Directions: Read the task carefully. Decide whether it is a nondirective task or MI directive task. If it is a nondirective task, mark a tally in the appropriate box on the rubric. If it is a MI directive task, mark a tally in the appropriate box on the rubric and then categorize in the appropriate MI category provided by marking an X in the box.

Reminder: If a task has more than one multiple intelligences present, it will be categorized as Combined-2 or Combined-3+.

Task 1: Ask students to analyze the significance of the inclusion of students into the civil right movement (America Pathways to Present, 2005, Chapter 28, Section 2, page 937)

Task 2: Have small groups of students create a skit illustrating how a piecework system favors the employer. Each worker must perform a task, such as create a paper hat or airplane, chosen by the group. Provide the students with the following information to incorporate into their skits: pay per task accomplished, pay scale according to job held, marketability of the product, maintenance of quality control, evaluation of the product (America Pathways to Present, 1995, Chapter 14, Section 3, page 400)

Task 3: If two people disagree and neither individual is willing to compromise, how might the issue be decided? (The Americans, 1998, Chapter 12, Section 1, Page 350)

Task 4: Have students look back at the questions they answered about cowboys at the beginning of the section. Ask them to note new information they learned from their reading and discuss how their ideas have changed. (The Americans, 2007, Chapter 13, Section 1, Page 417)

Task 5: Invite student groups to conduct research on various aspects of the Paris peace talks and provide a brief presentation to the rest of the class. (America Pathways to Present, 2005, Chapter 31, Section 3, page 1047)

Task 6: Ask students to create a political cartoon of TR. To help students come up with ideas, have them consider Roosevelt's colorful, aggressive character, his handling of Panama, his receipt of the Nobel Peace Prize, and the criticism of his opponents such as William Randolph Hearst. (American Pathways to Present, 1995, Chapter 18, Section 3, page 509)

Task 7: Have students work in small groups to discuss the questions and review one another's responses. (The Americans, 1998, Chapter 16, Section 4, page 485)

Task 8: What did Roosevelt do to the trusts and railroads? (The Americans, 2007, Chapter 17, Section 3, page 525)

Task 9: Have students enact of meeting of the United Nations General Assembly. Ask them to choose a current or historical world event to discuss and conduct research to prepare for the meeting. Students can assume the roles of the secretary-general and delegates from member nations. Students should debate the situation and vote on a proposed solution. (America Pathways to Present, 2005, Chapter 26, Section 1, page 869)

Task 10: Ask students if they intend to vote at every opportunity after they reach the age of eighteen. How would they feel if a constitutional amendment raised the minimum voting age to twenty-five? (America Pathways to Present, 1995, Chapter 19, Section 4, page 539)

Task 11: Have students create chart in which they list the pros and cons of prohibition. (The Americans, 1998, Chapter 21, Section 1, page 614)

Task 12: Have students examine the lyrics of the song, “Brother, Can you spare a dime?” Tell students that when the song was recorded, one in four Americans was out of work. Ask about the meaning and significance of the lyrics. Ask interested students to bring in recordings of this song. (The Americans, 2007, Chapter 22, Section 1, page 674)

Task 13: Ask students to use an almanac to find the percentage of eligible women voting in each of the presidential elections since 1920 and to compare it with the percentage of eligible males voting. Students can show the statistics in a series of simple bar graphs or a table. (America Pathways to Present, 2005, Chapter 18, Section 4, page 637)

Task 14: Ask students to skim section 2, list the main headings and subheadings and write a sentence or phrase to predict the content of each section. When they have finished reading Section 2, ask them to review their predictions and test them against the actual text. (America Pathways to Present, 1995, Chapter 22, Section 1, page 614)

Task 15: To help less proficient readers understand the sequence of events perpetuated by the Nazis during the Holocaust, draw a timeline, which students can fill in as they read listing events in chronological order (The Americans, 1998, Chapter 24, Section 3, page 717)

Task 16: Ask students how they react when they feel threatened. (The Americans, 2007, Chapter 26, Section 4, page 828)

Task 17: Ask students complete the graphic organizer on this page as they read the section. Graphic organizer is the in the form of a cluster diagram concerning “Growth of Big Business” (America Pathways to Present, 2005, Chapter 13, Section 2, page 467)

Task 18: War can bring new opportunities for business expansion. To illustrate this concept for all students, have them work in groups to design an ad campaign for a product to be sold during wartime. This product might be one that both soldiers and those on the home front can use, such as Coca-Cola or chewing gum. Suggest that students identify which of their product’s features the ad should promote, as well as the audience that it is designed to reach. (American Pathways to Present, 1995, Chapter 25, Section 1, page 694)

Task 19: Have students visualize the trickle-down theory by drawing a cartoon or a graphic organizer. Ask students to label the different parts of their drawing. (The Americans, 1998, Chapter 33, Section 2, page 983)

Task 20: Have students work in small groups and use the library and internet resources to research the life and achievements of Nelson Mandela. Students will write a group report and assemble their findings, perhaps in collage imagery on a poster board (The Americans, 2007, Chapter 29, Section 1, page 910)

Part Two Directions: Once you have finished categorizing all 20 tasks, please count the number in each MI category and fill in the “total in each category” sections.