Teacher Attitude Toward Differentiated Instruction in Third Grade Language Arts

Vivian Marina McLean
University of Southern Mississippi

Follow this and additional works at: https://aquila.usm.edu/dissertations

Recommended Citation
https://aquila.usm.edu/dissertations/619

This Dissertation is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in Dissertations by an authorized administrator of The Aquila Digital Community. For more information, please contact aquilastaff@usm.edu.
The University of Southern Mississippi

TEACHER ATTITUDE TOWARD DIFFERENTIATED INSTRUCTION IN
THIRD GRADE LANGUAGE ARTS

by

Vivian Marina McLean

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2010
ABSTRACT

TEACHER ATTITUDE TOWARD DIFFERENTIATED INSTRUCTION IN THIRD GRADE LANGUAGE ARTS

by Vivian Marina McLean

December 2010

The purpose of this study was to investigate teacher attitude toward differentiated instruction in third grade language arts in classrooms across a southern region of the United States. The researcher sought to answer four research questions “Does National Board Certification affect teacher attitude toward differentiated instruction,” “Does teacher education affect teacher attitude towards differentiated instruction?,” “Does teacher experience affect teacher attitude toward differentiated instruction?,” and “Does professional development affect teacher attitude toward differentiated instruction?.”

The research findings supported the work of Tomlinson, McTighe, Webb, Wiggins, Vygotsky, and Gardner. Their literature served as a foundation in the identification of the variables for this study on attitudes toward differentiated instruction. Research findings suggested that neither teacher experience, National Board Certification, nor teacher education had a significant effect on teacher attitude toward differentiated instruction. However, there was a significant difference in teacher attitude toward differentiated instruction due to professional development.

The findings of this study suggested that teachers receiving more professional development have a more positive attitude toward differentiated instruction.
TEACHER ATTITUDES TOWARD DIFFERENTIATED INSTRUCTION IN
THIRD GRADE LANGUAGE ARTS

by

Vivian Marina McLean

A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved:

_Ronald A. Styron Jr._
Director

_David E. Lee_

_James T. Johnson_

_Gaylynn A. Parker_

_Susan A. Siltanen_
Dean of the Graduate School

December 2010
ACKNOWLEDGMENTS

This research was completed thanks to the guidance and help of so many supportive people. I would like to first thank my entire committee for their support, commitment, and encouragement throughout this program. My committee chairperson, Dr. Ronald Styron, provided expertise, guidance, encouragement, and mentoring throughout my research. I cannot thank him enough. Committee members Dr. James Johnson, Dr. Gaylynn Parker, and Dr. David Lee provided support and encouragement throughout every step of this process. I am forever grateful for their willingness to give of their time and expertise to assist me throughout this process.

A special thank you to my family for encouraging me to continue on when I wanted to give up. Without them, I would not have had the stamina to complete this process. I would also like to thank my mother, the late Sara Langley McLean, for giving me strong character and determination to face daily challenges with a smile.
TABLE OF CONTENTS

ABSTRACT ........................................................................................................ ii

ACKNOWLEDGMENTS ................................................................................... iii

LIST OF TABLES .............................................................................................. vi

CHAPTER

I. PROBLEM ...................................................................................................... 1
   Introduction
   Statement of the Problem
   Purpose of the Study
   Definition of Terms
   Delimitations
   Assumptions
   Justification
   Summary

II. REVIEW OF RELATED LITERATURE .................................................. 11
   Introduction
   Theoretical Framework
   Differentiated Instruction
   Teacher Attitudes toward Differentiated Instruction
   Strategies for Differentiating Instruction
   Summary

III. METHODOLOGY ...................................................................................... 55
   Introduction
   Research Design
   Participants
   Instrumentation
   Procedures
   Data Analysis
   Summary

IV. ANALYSIS OF DATA ............................................................................... 60
   Introduction
   Demographics
   Descriptive Statistics Criteria
   Analysis of Variance Based on National Board Certified Teacher Attitude
LIST OF TABLES

Table
1. Frequencies and Percentages of Demographic Variables…………………61
2. Descriptive Statistics of Survey Questions 1-14…………………………63
3. Analysis of Variance of National Board Certification Affect on Differentiated Instruction…………………………………………………………..65
4. Analysis of Variance of Teacher Education Affect Differentiated Instruction…………………………………………………………………….66
5. Pearson Correlation on Professional Development and Teacher Attitude toward Differentiated Instruction……………………………………..67
CHAPTER I

PROBLEMS

Introduction

What if a shopping mall had the same set of clothing for every customer who came in the door? This scenario seems ludicrous and yet parallels what happens each day in many school classrooms. Often the teacher implements one lesson format to a class of mixed-ability students, expecting each student to benefit from that same instruction (Tomlinson, 2004).

Currently, teachers face unprecedented pressure to ensure that every student demonstrates high academic achievement and growth. All across the nation, teachers are engaging students in learning to meet the expectations that all students will meet the standards of achievement under the No Child Left Behind Act (Guilfoyle, 2006). Though schools should be attempting to make possible the success of all students, many educational institutions fall short, especially for students whose abilities are above or below the average (Tomlinson, 2003).

America’s elementary schools face so many different issues brought about by the increasing diversity of student population. School populations have become more culturally, ethnically, racially, and linguistically diverse during the past two decades. Consequently, this places increased pressure on teachers to raise learning standards while meeting the needs of all students in the classroom. Teachers are continually challenged to implement modifications to their lessons within the classroom to ensure that each individual student’s academic needs are met. With the introduction of No Child Left
Behind, the federal government holds each state accountable for the academic achievement of students (Cawelti, 2006).

Because of No Child Left Behind, many states began developing their own set of standards to assist in increasing student performance and achievement. The fact that no two students learn in the same manner or at the same rate creates challenges for classroom teachers. Differentiated instruction (DI) is a teaching model that has been widely accepted in many school systems to address the instructional needs of diverse learners. Carol Ann Tomlinson, an expert of differentiated instruction, contends that instructional approaches should vary and be adapted in relation to individual and diverse students in the classroom (Benjamin, 2003).

Current research suggests that students’ academic needs are more readily met in a classroom where teachers utilize the differentiated instruction approach (Tomlinson, 2004). Although research indicates that most teachers understand the importance of differentiated instruction, a majority of classroom teachers do not differentiate instruction for academic diversity (Daniels & Bizar, 2005). Furthermore, research shows that student academic needs are more readily met in classrooms where teachers are differentiating instruction. In the same vein, students’ aptitude for learning is directly related to their learning styles and individual differences. It has been demonstrated that when children of all ages are placed in responsive learning climates, in which they are valued and helped to succeed, their attitudes and academic achievement improves (Ryan & Cooper, 2007).

Differentiated Instruction provides an avenue for individuals to learn in a variety of ways. It allows students to learn by using their dominant learning styles, multiple
intelligences, and emotional intelligence (Levine, 2003). Levine contends that offering a variety of opportunities and ways to learn is one way to increase student achievement. Erwin (2004) stated that allowing students to demonstrate their knowledge and skills in a variety of ways, teachers are creating conditions for high quality learning. Thus, making learning conducive and proving students opportunities to master criteria that is expected of them.

Statement of the Problem

There is an apparent problem that students are not meeting state mandated requirements set by No Child Left Behind Act of 2001. For decades, educators have recognized the multitude of differences in individual students within a given classroom, but often they have failed to integrate these differences into their teaching strategies. Therefore, in order to effectively meet the needs of all students in the classroom, teachers cannot teach to the middle of the class, or use only one teaching style. In attempt to solve this problem, teachers must differentiate their instruction in order to give each child an equal and appropriate education (Glasgow, McNary & Hicks, 2006). Differentiated instruction will help teachers meet the needs of special education students as well as gifted and talented students and all students in between. Research indicates that differentiating instruction is better for all students, but it does not disclose why teachers are not doing it more. Hence, flexible use of time can permit more individualized instruction (Tomlinson, 2004).

Many school systems have invested much time and money into the implementation of differentiated instruction in the classrooms. However, it is not known to what degree teachers are implementing the use of differentiated instruction.
Furthermore, as the student population in American schools is becoming more diverse, educators are faced with a tremendous challenge of tailoring classroom instruction to meet the needs of all students. As a result of this increasing demographic diversity, it is imperative that teachers plan instruction that focuses on individual student’s academic needs. Educators must cater a plan for those individual needs so that students can experience academic achievement and success. In other words, students benefit from being provided different avenues to learning. If educators do not begin to differentiate instruction, standard-based assessments may not be met. Equally important, high-stakes testing requires teachers to bring all students to a common point of content proficiency, even as student populations continually become more academically diverse (Walpole & McKenna, 2007).

Recent data from the National Center for Education Statistics reported that approximately 6.0 million students or 14% of all students received special education services in 2003-2004 (Villegas & Lucas, 2007). Research indicated that the number of English Language Learners increased from approximately two million students, or 4.6% of all students, in 1993-94 to four million students, or 8% of all students, in 2003-04. While there is an increase in diversity in the classroom, this presents daily challenges for the teacher to address the learning needs of the students (Villegas & Lucas, 2007).

Therefore, the problem in education today is the lack of achievement, in which not enough students are showing improvement in academic achievement (Nunley, 2003). If the problem of failing to differentiate instruction is not addressed, students will not master criteria and curriculum goals in Language Arts in state-mandated achievement tests. Schools will not reach the Adequate Yearly Progress (AYP) criteria of No Child
Left Behind if individual student needs are not met (Guilfoyle, 2006.) So, this problem threatens schools’ accreditation standings. At the same time, ultimately affects government funding for schools.

Sternberg and Gringorenko (2007) contend that many students have strengths that are unrecognized and neglected in traditional schooling. By becoming aware of those strengths and incorporating them into instruction, educators can boost student achievement. As a result, one suggestion for increasing student achievement is the implementation of differentiated learning.

**Purpose of the Study**

The purpose of this study was to investigate teacher attitudes toward differentiated instruction in third grade Language Arts classrooms across a state located in the southern region of the United States. The attitudes of teachers regarding the implementation of differentiated instruction in the classroom was examined. At any rate this can be a change process for teachers and students. On the contrary, people generally resist change even when they can see a need for it. The thought of change can make people feel uncomfortable and can create conflict and tension. According to Tomlinson & McTighne (2006), many teachers and administrators are skeptical of the need for change and leaders add to the skepticism by adding and abandoning new initiatives too rapidly.

This study placed a platform on the rationale and research supporting the effect of differentiated instruction on teacher attitude. In classrooms where one lesson is designed for all learners, limits are placed on students’ achievement. In any case, students who are
advanced academically are left behind because they are under-challenged, and students who may be struggling are left frustrated and confused (Davis, 2004).

According to Drapeau (2004), children need not only to survive but also to thrive. In a differentiated classroom, fear is removed and children are free to take risks in their learning. By developing lessons appropriate to students’ readiness levels, interest, and learning profiles, teachers will be able to draw upon prior knowledge and student experiences outside of the school environment which will empower students to ask questions and share their opinions because they already have prior knowledge or interest in the topic (Lewis, Perry, & Hurd, 2004). With modifications made to the lesson, students are challenged at appropriate levels to eliminate frustration and boredom. Maslow and Lowery (1998) emphasized that before higher levels of need are even perceived; lower level needs must be satisfied.

Teachers do not usually have adequate opportunities to reflect on their work possibly because of the intensity of the job requirements as well as extra responsibilities as a teacher. This study will provide teachers the opportunity to reflect on their attitudes about differentiated instruction (DI) in attempt to raise awareness about meeting individual student needs. The research in this dissertation will be guided by the following research questions:

1. Does National Board Certification affect teacher attitude toward DI?
2. Does teacher education affect teacher attitude toward differentiated instruction?
3. Does teacher experience affect teacher attitude toward differentiated instruction?
4. Does professional development affect teacher attitude toward DI?

Definition of Terms

*Academic achievement*- all about what students can actually do after instruction by a teacher.

*Academic diversity*- the spectrum of learners typically present in the general education classroom, including students with a range of learning problems and learners who are advanced (Tomlinson, 2003).

*Attitudes*- predispositions that consistently affect actions.

*Brain-based learning*- comprehensive approach to instruction based on how current research in neuroscience suggest our brain learns naturally.

*Differentiated instruction*- variety of classroom practices that allow differences in students’ learning styles, interests, prior knowledge, socialization needs, and comfort zones (Tomlinson, 2005).

*Diverse*- differences among groups of people and individuals based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographical area.

*Learning strategies*- methods used by individuals in their interactions with learning tasks.

*Learning style*- individual prefaces for where, when, or how a student obtains and process information (Heacox, 2002).

*Mixed-ability students*- students have different strengths and weaknesses and develop at different rates. There are different ranges of learning styles and preferences (Tomlinson, 2001).
Multiple intelligence- linguistic (word smart), logical mathematical number reasoning, spatial (picture smart), bodily-kinesthetic (body), musical to account for a broader range of human potential in children and adults (Gardner, 1993).

Schema- when a new topic is introduced each student has a different schema or mental picture that is a result of prior knowledge and experiences (Chapman & King, 2003).

Tiered- intellectually rigorous standards relevant and flexible to student readiness, needs, and learning level.

Traditional classroom- what we are most familiar with and how most students learn in elementary and secondary school in an identifiable classroom space with instructor who delivers education to student.

Zone of proximal development - the range of challenge in which a learner can progress because the task is neither too hard nor too easy (Vygotsky, 1978).

Delimitations

During the course of this study, several delimitations were made. The study was designed for third grade Language Arts teachers only. The study addressed teachers in the state of Mississippi only. In addition, the study focused on attitudes toward differentiated instruction. In choosing to investigate the attitudes of teachers, the study did not focus on all grade levels in Language Arts.

Assumptions

Several assumptions were presented in this study. The researcher assumed teachers have had professional development training. The researcher assumed
participants defined differentiated instruction in the same manner as the researcher. In addition, it was assumed the participants reported their actual attitudes and practices.

Justification

This study is important because today’s classrooms have become academically diverse in most regions of the United States. Teachers need to help all of their students reach their full potential. Many, if not most, classrooms contain students representing both genders and multiple cultures. Hence, including students who do not speak English as a first language, and generally contain students with a range of exceptionalities and marked different experiential backgrounds (Johnsen, 2003). Of course, paying attention to individual student learning styles, creativity, interests, and readiness would help meet state mandates and increase student achievement.

Johnsen (2003) argues that teachers have a responsibility to make school a place where every student can benefit. Specifically, differentiated instruction is one approach that can help teachers meet the needs of individual students. Incorporating differentiated instruction into educational practices is a worthy goal for several reasons. First, differentiation is compatible with the American ideals of equity and excellence (Tomlinson, 2001). Differentiated instruction is equitable by maintaining a core of what students should learn. At the same time, it also encourages excellence by varying how students come to make sense of this core understanding. Differentiated instruction essentially seeks to balance the various needs of students with the requirements of curriculum (Tomlinson & Jarvis, 2006). Second, differentiation is compatible with standardized testing. Teachers who are serious about preparing their students for state tests realize that they need to provide their students with excellent instruction.
Some teachers hesitate to undertake differentiated instruction in their classrooms because they believe they are too busy preparing students for state tests. According to Berry, Johnson, and Montgomery (2005), teachers who feel this way imagine a false dichotomy between a need to reach diverse learners and a need to do well on state report cards. Hence, teachers who truly understand the disciplines they teach can do both. Third, differentiation is worthwhile due to the fact that it is compatible with what brain research tells us about how students learn best (Tomlinson & Jarvis, 2006).

Summary

With the implementation of the No Child Left Behind Act of 2001, America’s educators have searched for solutions to repair the decline in academic achievement in our schools. While it is obvious that individual student needs should be met in our school systems, many educators are not implementing differentiated instruction in their classrooms on a regular basis. Surprisingly, it could be that teachers are neither confident nor sure of how to effectively implement differentiated instruction. In short, teachers must prepare students for the future by utilizing effective instructional alternatives for teaching an academically diverse population. In addition, schools are called upon to meet the federal mandates of the NCLB Act of 2001. This act requires that all students in grades three through eight be assessed and show progress in reading and math. As a result of the federal and state mandates, schools are required to pursue a new avenue in educating its diverse population (Howard, 2007).
CHAPTER II
REVIEW OF RELATED LITERATURE

Introduction

Literature and research are reviewed and synthesized to establish the conceptual framework for this study. The literature on differentiated instruction is presented in a manner that supports teacher attitude toward differentiated instruction in Language Arts. The researcher presents the definition of differentiated instruction, highlights teacher attitudes towards differentiated instruction, identifies key instructional strategies, and provides the theoretical foundation for differentiated instruction. The literature regarding learning styles, multiple intelligences, brain-based learning, and constructivism is also presented.

Theoretical Framework

The theoretical basis for this study is grounded in Vygotsky’s Learning Theory of Cognitive Development. It has implications for teaching and learning in contemporary times (Bogdan & Biklen, 2003). Differentiated instruction reflects Vygotsky’s socio-cultural theory, the main tenet of which lies in social, interactive relationship between teacher and student (Vygotsky, 1986). The relationship between student and teacher is clearly reciprocal, the responsibility for development becoming a shared endeavor (Tomlinson, 2004). In addition, the difficulty of skills taught should be slightly in advance of the child’s current level of mastery, linking with Vygotsky’s Zone of Proximal Development. Differentiated instruction is deeply rooted in the work of Lev Vygotsky. His work has major cultural emphasis and, as a result, is influential today.
Vygotsky noted that instruction is only effective when it promotes further cognitive development.

Constructivist Theory

The Constructivist Theory (Vygotsky, 1978) is a teaching method in which students are encouraged to use prior knowledge and experience and apply them to newly presented information. Differentiated instruction may be able to take its impetus from the social constructivist learning theory engendered by Russian psychologist, Lev Vygotsky (1896-1934). This theory is viewed by several educationalists, researchers and school administrators as central to instructional enhancement, classroom change and redevelopment. This theory is based on the premise that the individual learner must be studied within a particular social and cultural context (Bogdan & Biklen, 2003). The teacher selects materials that are appropriate for a variety of students and their abilities. Formerly, the teacher presents these materials to the students and helps guide the learning through well-organized lessons (O’Shea, 2005). In doing so, the students are able to internalize and master the skills presented.

The constructivist approach focuses on the student as the learning center, while traditional education has focused on instruction content rather than the student (Gagne, 2004). Gagne (2004) asserted that knowledge, proceeding from the knowledge from teachers or from instructional content to the passive learner, is instructional. John Dewey (1938) emphasized that students put more effort into material they are studying if an interest exists. At the heart of the constructivist approach, the learner formulates and constructs the knowledge through scaffolding and accommodation (Gagne, 2004). In
sum, the theory of constructivism is a foundational building block for understanding differentiated instruction.

**Vygotsky’s Zone of Proximal Development**

Vygotsky’s notion of the Zone of Proximal Development, a central proposition of this theory, refers to a level of development attained when learners engage in social behavior. Vygotsky (1978) defines the Zone of Proximal Development as the distance between the actual development level and the level of potential development. Hence, the Zone of Proximal Development (ZPD) links that which is known to that which is unknown. In order to develop the ZPD, learners must actively interact socially with a knowledgeable adult or capable peers (Vygotsky, 1986). The teacher’s role becomes one of purposeful instruction, a mediator of activities and substantial experiences allowing the learner to attain his or her Zone of Proximal Development. Vygotsky’s theory defines the Zone of Proximal Development as the difference between what students can do independently and what they can do with adult assistance. He argued that the ZPD is where real learning takes place. He believes that pre-testing is critical in order to place students in their ZPD range. Furthermore, Vygotsky perceived language and speech as tools, used by humans to mediate their social environments.

**Sternberg’s Theory of Human Cognition**

According to the research of Robert Sternberg (1997), our public education system is, to a large degree, a closed system. Students are tested and classified based on only two kinds of abilities: ability to memorize, and ability to analyze. As a result, we label students who excel in these patterns of ability as smart or able. We label those who do not excel as less intelligent or learning disabled (Sternberg & Grigorenko, 2007).
Sternberg’s theory of human cognition is triarchic. It is composed of three skill areas: analytical (linear thinkers with school smarts), creative (innovative who think outside the box), and practical (street smart who put things in context). He argues that people who are successful develop a full range of intellectual skills, rather than just relying on smarts that schools so value. Sternberg (1997) argues that to be successful, it is essential that students are taught in their primary area of strengths while learning skills in their weaker areas as well.

Carol Ann Tomlinson (2004) is an expert and pioneer of differentiated instruction. Therefore, it is evident that Carol Ann Tomlinson’s research on Differentiated instruction would be a foundation layer for this study. Tomlinson contends that teachers should differentiate content, process, and product in the classroom learning environment. It is Tomlinson’s belief that differentiated instruction tailors instruction to meet individual needs. As a pioneer of research toward differentiated instruction, Tomlinson suggests that it is the efforts of teachers to respond to variance among learners in the classroom that yields the most effective implementation of differentiated instruction. Johnsen (2003) conducted a study using undergraduate teachers differentiating instruction to suit different ability levels. Johnsen’s findings indicated that the use of differentiated techniques proved to be engaging, stimulated student interest and provided a gratifying experience for the undergraduate teachers. A case study of one middle school’s experience with differentiated instruction by Tomlinson (2005) revealed initial teacher opposition toward modifying instruction to suit learner variance. However, the teacher’s attitude towards change proved a more decisive factor, with teachers who embraced change showing a greater inclination to adopt differentiation (Tomlinson, 2005).
addition, a study investigating the use of differentiated instruction on student scores on standardized tests, teachers’ perceptions of their ability to meet the needs of diverse students and parents’ expectation of student performance, Hodge (1997) found that students who were prepared for tests using differentiated techniques showed a gain in their mathematics scores, but there were no comparable gains in reading scores. Furthermore, the teachers’ perceptions of being able to meet the needs of diverse learners in their classrooms do not appear to be influenced by the use of traditional or differentiated instructional techniques (Hodge, 1997).

Differentiated instruction provides opportunities for students to learn by engaging them in activities designed to enhance their strengths, learning needs, and preferences through a multitude of instructional formats, and allowing the students to demonstrate their understanding of concepts through a variety of means. Sternberg & Grigorenko (2007) encourages teachers to provide diverse activities, which enhance students’ own dominant intelligence. Moreover, this will increase the chance of retaining the information to be able to apply it later in other areas of learning. Providing students activities that are more diverse also helps students build upon their own dominant intelligences, while at the same time, it strengthens their less dominant intelligences (Armstrong, 2009). Contrary to Armstrong, Sternberg and Gringorenko (2007) believe students who are taught analytically, creatively, and practically improve academically regardless of the kind of activities and assessments they receive.

Maslow’s Hierarchy of Need Theory

Abraham Maslow’s Hierarchy of Need Theory has five important components: physiological, safety, love and belonging, esteem, and self-actualization (Campbell,
Physiological needs, including sleep and hunger, are dominant and serve as the basis of motivation. Safety represents the need for security, stability, and protection from fear. Love and belonging refer to the need for family and friends. Esteem needs encourage the reaction of others to all individuals and self opinions. Self-actualization refers to the restless tendency to achieve in spite of the satisfaction of the lower needs. The concept of self-actualization is the most important need that is unique to the classroom. Students are encouraged to discover, recognize, and utilize their potential by facilitators who guide them with engaging activities that promote and enhance competency and fulfillment (Cianciolo & Sternberg, 2004).

Teachers have been differentiating instruction for as long as teaching has been a profession (Stronge, 2002). It has to do with being sensitive to the needs of your students and finding ways to help students make the necessary connections for learning to occur in the best possible way. In this day and age, there is research available for teachers to assist in creating instructional environments that will maximize the learning opportunities and will help students in developing the knowledge and skills necessary for achieving positive learning outcomes (Barton, 2006). In addition, addressing student differences and interest appears to enhance their motivation to learn while encouraging them to remain committed and stay positive (Tomlinson, 2004). Ignoring these fundamental differences may result in some students falling behind, losing motivation and failing to succeed. Students who may be advanced and motivated may become lost as the teacher strives to finish as much of the curriculum as possible. It would further appear that students learn effectively when tasks are moderately challenging, neither too simple nor too complex.
Brain-Based Learning

Research on the brain has been used to inform educational practices for many years and is becoming more and more popular. Brain-based research helps us to know the many influences that can affect learning (Jensen, 2000). Interestingly, the more we understand how students learn best given the variable affecting learning, the better equipped we are to provide instruction that will maximize learning outcomes. Jensen argues that the brain is ready for problem solving at age one or two and is fully developed by the age of eleven to thirteen. He argues that brain growth occurs as a result of the engagement in problem solving and is not dependent on arriving at an answer. Recent research into the working of the human brain has significant implications for educators (Nunley, 2003).

A brain compatible environment ensures that learning takes place. A differentiated classroom is organized in a manner to alleviate student stress and increase student interests in their learning by developing lessons according to the needs of the students. According to Jensen (2000), brain research shows that learning is developmental, that each brain is uniquely organized, and that children experience window of opportunity for learning at different ages.

Brain-based instruction is cognizant of the brain’s natural learning system (Greenleaf, 2003). Good instruction within the classroom seeks to utilize the brain adeptly, to process, store and retrieve information (Greenleaf, 2003). Brain-research suggests three broad, related concepts that necessitate a differentiated approach (Tomlinson & Edison, 2003). Tomlinson & Edison contend that the learning environment should be safe and non-threatening to encourage learning. Children who
experience discomfort through refection, failure, pressure and intimidation may not feel safe within the learning context. Students must be appropriately challenged, the learner should be comfortable enough to accept the challenge that new learning offers, the content being neither too difficult nor too easy (Tomlinson, 2005). The student must be able to make meaning of ideas and skills through significant association. However, this knowledge about the workings of the human brain has yet to impact on classroom practice and teacher preparation programs (Levine, 2003).

_Gardner’s Theory of Multiple Intelligences_

It is the thought of the researcher that Gardner’s Theory of the Multiple Intelligences would also support this study. The multiple intelligences are tools for learning and problem-solving (Campbell, Campbell, & Dickinson, 2004). They contend that creating opportunities for all students, by enriching the classroom through multiple techniques and assessment forms, develops students and brings out their strengths. Differentiated instruction takes into consideration the Theory of Multiple Intelligences (Gardner, 1993) when providing students a variety of chances and activities to the content they are learning.

Learning styles research is predominately used to understand learning preferences that students use to receive and process information (Springer, 2003). Obviously, the ideal is to create instruction that will address all three learning styles: visual, auditory, and kinesthetic. Springer reported a significant gain in the test scores of students on special education programs, after their preferred learning style was incorporated into the instruction. Students’ performances were significantly better when they were instructed through learning style approaches rather than traditional teaching methods. Furthermore,
the attitudes of these students toward learning improved significantly, as they felt that their individual strengths were being accommodated (Springer, 2003).

According to Gardner (2004), schools focus most of their attention on developing verbal/linguistic and logical/mathematical intelligences. Students who exhibit other intelligences are often labeled as learning disabled or attention deficient disordered.

Howard Gardner’s Theory of Multiple Intelligences has received an overwhelming response from educators in the past several years. Gardner (2004) offers seven different ways to demonstrate intellectual ability and has recently added an eighth intelligence. Understanding how students demonstrate their intellectual capacity is an important factor in designing instruction that will meet the specific learning needs of students who may be dominant in one or several intelligence as opposed to other forms of intelligence (Gardner, 2004).

Howard Gardner’s theory of Multiple Intelligences is a departure from the view that intelligence is a single, measurable unit (Gardner, 1993). Gardner’s theory focuses on eight intelligences, while highlighting the need for problem-solving (Campbell et al., 2004). An instructional technique or program that is heavily reliant on one of the intelligences minimizes opportunities for students who may not possess a propensity to learn in this way (Gardner, 1993). The multiple intelligences are presented as tools for learning and problem solving. Creating opportunities for all students, by enriching the classroom through multiple techniques and assessment forms, develops students and brings out their strengths.

The Multiple Intelligence Theory helps the teacher to understand the innate strengths the child brings into the classroom. A student’s cultural background brings into
the classroom behaviors, actions, and customs that may be very different from those of the teacher. By understanding diversity within a classroom and how cultural differences may impact learning, a teacher can compliment his or her instruction to a student preferred way of learning. Different learners can benefit most from varied forms of instruction due to the fact that all individuals possess different strengths in different areas. What innate strengths and interests children are born with make up their multiple intelligences (Gardner, 2004)?

Harvard professor Howard Gardner first introduced the Theory of Multiple Intelligences in the early 1980s. According to Armstrong (2009), Gardner argues that traditional ideas about intelligence employed in educational and psychological circles for almost a hundred years required reform. Howard Gardner concluded that multiple intelligences must have features that are developmental, be observable in special populations, provide some evidence of localization in the brain, and support a symbolic or notational system. According to Gardner, each individual possesses distinct cognitive features. The research of Gardner revealed a broader family of intelligences than earlier schools of thought. Gardner defined intelligence as (a) the ability to solve problems that one encounters in real life, (b) the ability to generate new problems to solve, and (c) the ability to make something or offer a service that is valued within one’s culture (Campbell et al., 2004).

Heacox (2002) summarized the eight intelligences as follows:

1. Linguistic Intelligence. The understanding of the phonology, syntax, and semantics of language, and its pragmatic uses to convince others of a
course of action, help one to remember information, explain or communicate knowledge, or reflect upon language itself.

2. Bodily-Kinesthetic Intelligence. The ability to control one’s bodily motions and the capacity to handle objects skillfully.

3. Spatial Intelligence. The ability to perceive the visual world accurately, to perform transformations and modifications upon one’s initial perceptions, and to be able to re-create aspects of one’s visual experience.

4. Musical Intelligence. The ability to understand and express components of music, including melodic and rhythmic patterns.

5. Logical Mathematical Intelligence. The understanding and use of logical structures, including patterns and relationships, and statements and propositions, through experimentation, quantification, conceptualizations, and classification.

6. Intrapersonal Intelligence. The ability to access one’s emotional life through awareness of inner moods, intentions, motivations, potentials, temperaments, and desires, and the capacity to symbolize these inner experiences, and to apply these understandings to help one’s own life.

7. Interpersonal Intelligence. The ability to notice and make distinctions among other individuals with respect to moods, temperaments, motivations, intentions, and to use this information in pragmatic ways, such as persuade, influence, manipulate, mediate, or counsel individuals or groups of individuals toward some purpose.
8. Naturalist Intelligence. The capacity to recognize and classify the numerous species of flora and fauna in one’s environment. (p. 48)

The implementation of differentiated instruction in the classroom coupled with multiple intelligences empowers teachers to become better observers of students’ skills and to teach students through their individual strengths (Armstrong, 2009). Differentiated instruction and multiple intelligences provide educational institutions the opportunities to transform their curriculum, instruction, and assessments to accommodate individualized learning. However, the relationship between student and teacher is the critical link to achievement. In essence, the greatest influence on student learning is what teachers’ model in their beliefs, words, attitudes, and behaviors.

*Benjamin Bloom’s Taxonomy*

Benjamin Bloom’s Taxonomy has three major sections: affects, psychomotor, and cognitive (Bloom, 1956). This literature review focuses primarily on the cognitive domain and its relationship to differentiated instruction. The precepts of Bloom’s taxonomy are evident in differentiated instruction. Students who are academically talented may require less time developing a foundation of facts, concepts, and ideas represented in the knowledge and comprehension levels of Bloom’s work. Additionally, those students who are less academically ready need to use the higher order thinking skills of taxonomy (Heacox, 2002). The differentiated instruction teacher utilizes Bloom’s taxonomy to categorize activities by their level of challenge and complexity.

Many educators believe that the logic and detailed presentation of Bloom’s work has not been utilized to its maximum potential. The most important value of the taxonomy is its general application. Curriculum experts use the taxonomy to refine
curriculum, and inexperienced teachers utilize the taxonomy as a guide for developing objectives for lessons (Gagne, 2004). Bloom’s taxonomy is a flexible tool and can be used effectively to promote critical thinking among students.

**Webb’s Depth of Knowledge**

Webb’s Depth of Knowledge (DOK) is the degree of depth or complexity of knowledge standards and assessments. To someone unfamiliar with Depth of Knowledge, it would appear to be similar to Bloom’s Taxonomy. They are similar in some aspects; however DOK measures rigor as a hierarchy not taxonomy. The verb is the main factor in Bloom’s Taxonomy. Rather, it is the context of the verb in Webb’s DOK levels. Each level describes and demonstrates the progression of the rigor of what is being taught and learned (Webb, 2002)

Webb’s DOK is a has been described as a system by which assessments are developed to decide what students are expected to learn, and should know. Depth of Knowledge consists of four levels: recall, skill/concept, strategic thinking, and extending. Recall, the first level involves basic memory recollection of information, facts and procedures. Skill/Concept involves two or more steps to a procedure and conceptual knowledge. Strategic thinking involves reasoning, sequencing of steps, and developing a plan. Extending thinking involves investigation, and understanding multiple conditions of a problem.

Recognizing DOK levels is not always easy to accomplish. Some assignments are easily identified whereas others are more complex. Recent research indicates that No Child Left Behind (NCLB) now requires states to align their assessments with DOK academic content standards at all grade levels. Interestingly, as the levels of DOK
increase, student must demonstrate more complex academic strategies. Hence, higher levels of DOK require that students solve problems in new and creative ways, and allow for multiple solutions to solve those problems.

*McTighe and Wiggins Understanding by Design*

Understanding by Design is a framework for improving student achievement through standards-driven curriculum development, instructional design, assessment, and professional development (McTighe & Wiggins, 1999). Understanding by Design is a nationally recognized framework produced by Grant Wiggins and Jay McTighe. This design offers nontraditional planning that can be used as an aid in the design of curriculum, instruction, and assessment.

In practice, Understanding by Design (UbD) offers a three-stage “backward planning” curriculum design process, a sit of design standards with attendant rubrics, and a comprehensive training package to help teachers design, edit, critique, peer-review, share, and improved their lessons and assessment (McTighe and Wiggins, 1999). The recently enacted federal statute No Child Left Behind (NCLB) emphasized the use of research-based programs that have been proven to help most children learn.

Understanding by Design platforms students’ understanding and application of knowledge. It is guided by research from cognitive psychology. Numerous schools, districts, regional service agencies, universities, and other educational organizations have recognized the efficacy of the Understanding by Design framework and implement it in their curriculum programs. Understanding by Design guides curriculum, local assessment, professional development, teacher observations, and school improvement in many school districts across the country.
One cannot speak of differentiated instruction without Understanding by Design coming to mind. Both differentiated instruction and Understanding by Design represent a way of thinking which pulls together many ideas and processes that have been tested both through research and classroom use. While it takes some time and effort to learn the way of thinking of differentiated instruction and Understanding by Design, the investment is worthwhile. Research positively supports the learning experiences that will engage learners and result in learners gaining more sophisticated insights and abilities that will be reflected in a variety of performance both in school and in the real world (Marzano, Pickering, & Pollock, 2001).

Understanding by Design and differentiated instruction differ from conventional teaching. Differentiated instruction is making sure that the right students get the right learning tasks at the right time. However, Design by Design suggests that understanding is more than just knowing or doing. McTighe & Wiggins (1999) suggest that when we truly understand an idea we can explain, interpret, apply, and emphasize knowledge. Reaching the needs of all learners does not mean providing the same instruction, for the same amounts of time, in exactly the same way, to all students. Therefore, both differentiated instruction and Understand by Design require giving attention to the curriculum and instruction so that students can retain knowledge and be successful.

Differentiated Instruction

Differentiated Classroom

No two students enter a classroom with identical knowledge, life experiences, and needs. Learning styles, language proficiency, experiences, readiness to learn, and other factors can vary extensively within the classroom. Despite these individual differences,
students are expected to master the same concepts, principles and skills. In the past, a majority of people believed that students did not learn because they did not pay attention. Hence, this is no longer the case. Currently, the blame has been given to teachers, administrators, and inadequate curriculum planning (Good & Brophy, 2003).

Classrooms in which differentiated instruction is taking place may help to close the achievement gap that has been prevalent for years in American schools. According to Oberman & Symoonds (2005), teachers in differentiated classroom use time flexibly, call upon a range of instructional strategies, and become partners with their students. Differentiation suggests that all learners can achieve and be appropriately challenged within any classroom. Of course, children have basic needs that must be met before learning can occur.

When differentiating instruction, the most valuable classroom commodity is time. It enables learning at every turn (Tomlinson & McTighe, 2006). In the differentiated instruction classroom, it is often more advantageous for the teacher to instruct a small group while other students are working independently in a small group, pairs, or triads. Each child knows what to do and how to do it. Students with various academic levels can work flexibly in groups with success, provided they are given guidance and held to high levels of expectations and performance, (Marzano, 2003). Marzano states the differentiated instruction teacher must continue to be analytical. Learning to facilitate a differentiated instruction classroom requires that the teacher promote flexibility and critical thinking in every aspect of the lesson and activities.

The differentiated classroom balances learning needs common to all students, with more specific needs tagged to individual learners (Tomlinson, 2005). Tomlinson
suggests that differentiation can liberate students from labels, offering students individual opportunities to perform at their best. Above all, teachers have a responsibility to make school a place where every student can benefit. Schools cannot succeed until all kinds of students are able to maximize their possibilities there. Though challenging, differentiated instruction is an approach that can assist teachers in reaching each student (Roberts & Inman, 2007).

In a differentiated classroom, fear is removed and children are free to take risks in their learning. By developing lessons appropriate to students’ readiness levels, interest, and learning profiles, teachers will be able to draw upon prior knowledge and student experiences outside of the school environment which will empower students to ask questions and share their opinions because they already have knowledge or interest in the topic (Roberts & Inman, 2007). With modifications made to lessons, students are challenged at appropriate levels to eliminate frustration and boredom. Maslow & Lowery (1998) emphasized that before higher level needs are even perceived, lower level needs must be satisfied.

**Differentiating Lessons**

Instruction is a concept focused and principle driven. All students have the opportunity to explore and apply the key concepts of the subject being studied (Tomlinson, 2003). Tomlinson suggests that ongoing assessment of student readiness and growth are built into the curriculum. Therefore, teachers should not assume that all students need a given task or segment of study, but continuously assess student readiness and interest, providing support when students need additional instruction and guidance,
and extending student exploration when indications are that a student or group of students is ready to move ahead (Tomlinson, 2004).

Tomlinson identified students as active explorers. Teachers guide the exploration. Because varied activities often occur simultaneously in a differentiated classroom, the teacher works more as a guide or facilitator of learning than as a dispenser of information (DiMartino & Miles, 2004). Of course, a differentiated classroom demonstrates an educator that sets goals shared by teacher and student based on student readiness, interest, and learning profile. In addition to, implementing assessment predicated on student growth and goal attainment (Taylor & Nolen, 2005).

Differentiated instruction supports the classroom as a community, accommodating differences and sameness (Lawrence-Brown, 2004). In fact, it allows for the creation of an environment in which students can succeed and derive benefit. Again, student interests vary; these interests can become effective tools to support learning in the differentiated classroom (Tomlinson, 2001). Tomlinson sees student interests as a powerful motivator, which wise teachers could take advantage of within the differentiated classroom. Teachers should find ways to engage students, by tapping into what interests students, and by involving students in the daily running of the classroom (Lewis, Perry, & Hurd, 2004). Activities and discussions that are built around students’ concerns and their life experiences allow the curriculum to become more meaningful to students (McBride, 2004). Allowing for student interests within the learning community ensures that even marginalized students find a place (Lawrence-Brown, 2004). Most students, even struggling learners, have aptitudes and passions, providing an opportunity within the
classroom for them to explore and express these interest, militates against the sense of failure previously experienced by these students (Lawrence-Brown, 2004).

Differentiated instruction takes cognizance of student variance by allowing the teacher to plan their content and process, supporting diverse learning styles (Lawrence-Brown, 2004). Lawrence-Brown contends that opportunities can be created to foster group learning and provide options for individual instruction or independent learning. In general, teachers who are perceptive to the learning needs of their students help learners to make productive choices about the ways in which they will learn best (Tomlinson, 2001). It further empowers the teacher to prioritize tasks to enrich the learning experience of specific students. Students on individualized education plans can be directed to tasks that involve mastering essential skills, while students on accelerated programs may be challenged through compacting tasks or independent research projects.

Differentiated instruction makes it possible for the teacher to include authentic instruction, using project-based learning, bringing relevant and meaningful knowledge into the classroom (Lawrence-Brown, 2004).

Differentiating instruction has received increasing attention as an effective alternative for addressing concerns of meeting the diverse needs of students in the classroom. Though differentiated instruction originated in the gifted and talented educational setting, it is now recognized to be an important tool for engaging students and addressing the individual needs of all students (Tomlinson, 2005). Current research clearly establishes that student needs are more readily met when students are in a classroom where differentiated instruction is being utilized.
environment, student test scores are higher, dropout rates are lower, and student satisfaction is greater (Benson, 2003).

_Differentiated Environment_

A third grade mixed-ability Language Arts classroom is likely to include students who can read and comprehend are advance learners, can barely decode words, barely comprehend meaning, apply basic information, and students who fall somewhere between these extremes. There are students whose primary interests are in science, sports, music, or dozens of other fields. There are students who learn best by working alone and those who are most successful working in groups. Furthermore, the learning profiles of primary students often change as they develop. Hence, students differ in readiness, interest, and learning profiles, and if schools attempt to meet the need of each student which fosters continual growth, differentiated instruction seems to be what needs to be implemented to meet diverse individual student needs. Differentiated instruction seems to be a sensible solution for meeting the academic diversity of most third grade Language Arts classrooms.

Teachers in the beginning stages of creating a differentiated classroom must begin with the individual levels of their students, accepting that children learn in different ways. This requires that teachers rethink their professional roles (Tomlinson, 2001). These teachers then continue to cultivate their own knowledge and expertise. They hold universally high expectations and provide the support that students need to achieve their academic and personal goals (Tomlinson, 2004).

Differentiated instruction is proactive. The teacher assumes that students have differing needs and therefore plans a variety of ways for learners to express learning. Of
course, differentiated instruction is rooted in assessment. Teachers implement a variety of methods to assess students’ developing readiness levels, interests, and modes of learning. Learning experiences are then designed based on their best understanding (Taylor & Nolen, 2005). Furthermore, differentiated instruction provides multiple approaches to content, process, and product. Teachers offer different approaches to what students learn, how they learn it, and how they demonstrate what they have learned. As a result, students and teachers are learners together and require ongoing collaboration in order to monitor progress of the student and adjust the learning activities as needed. Differentiation is not seen by the teacher as just another strategy, but a way of life in the classroom (Tomlinson, 2003).

Differentiating does not mean that a teacher is taking into account the individual interests, profiles, and readiness of all students five hours per day, in every curricular and instruction decision, simultaneously. Rather, differentiating means that a teacher is approaching the curriculum with a responsive disposition, an orientation to planning, decision-making, curriculum selections, and instructional flow that is flexible and opportunistic (Tomlinson & McTighe, 2006). Teachers share some of their power with their students about what is to be learned and how to learn it.

Gifted children often achieve language competency at an earlier age than their chronological age-mates (Johnsen, 2003). High-ability learners may excel in many language arts areas from reading and literary analysis to creative writing, poetry, and prose. Typically, teaching in the language arts has emphasized reading skills and low-level questions over active learning and inquiry (San Antonio, 2008). Thus, there exists a
real need to differentiate language arts experiences for verbally talented learners at all stages of development.

A differentiated classroom offers a variety of learning options to tap into different readiness levels, interests, and learning profiles. In a differentiated classroom, the teacher uses (a) a variety of ways for student to explore curriculum content, (b) a variety of sense-making activities or processes through which students can come to understand and information and ideas, and (c) a variety of option through which students can demonstrate or exhibit what they have learned (Tomlinson, Brimijoin, & Narvaez, 2008).

A class is not differentiated when assignments are the same for all learners and the adjustments consist of varying the level of difficulty of questions for certain students, grading some students harder than others, or letting students who finish early play games for enrichment (Tomlinson, 2004). It is not appropriate to have more advance learners do extra math problems, extra book reports, or after completing assigned work be given extension assignments. Asking students to do more of what they already know is hollow. Asking them to do “the regular work, plus” seems punitive to them (Tomlinson, 2003).

Differentiating instruction is an educator’s response to the various types of learners in the classroom. There will be some students who learn better alone, others with a partner, and still others on a team. Accordingly a teacher who differentiates will provide a variety of settings in the learning environment (Lawrence-Brown, 2004). Furthermore, a teacher who differentiates will recognize that some students prefer showing what they know in a creative way, while others prefer a more straight forward way, and still others an analytical way. In these classrooms, the teacher will allow
students to choose from a variety of projects to show their mastery of a concept (Roberts & Inman, 2007).

Differentiating instruction is providing choices. In an effective differentiated classroom, the teacher will occasionally allow students to choose while at other times she will make the choice for students (Danielson, 2006). In fact, truly effective teachers will sometimes require the student to do an assignment that would have been the child’s last choice. This all depends on the purpose of learning.

Effective differentiation means doing whatever it takes to help students gain access to the material to be learned (Vaughn, 2005). It does not mean giving less important or lower order work to the struggling students while assigning exciting, interesting, higher order material to the advanced students. A teacher differentiating instruction will provide challenging, respectful work at the readiness level of all students. Therefore, a teacher must really know her students. This happens through ongoing assessment, classroom community building, and open and honest communication with students, families and colleagues (Tomlinson, 2004).

Differentiated instruction provides a quality curriculum for all students and will have high expectations for all students. Quality differentiation begins with a quality curriculum (Vacca, 2005). The teacher must be clear on what she wants students to know, understand, and be able to do for a given unit of study. In addition, the teacher needs to determine and be clear on what mastery of the particular objectives will look like. Thus, knowing the road map of instruction will help the teacher maintain focus and keep students moving forward to the goal.
Content Differentiation

Content refers to the concepts each student learns in a lesson. It pertains directly to the knowledge and skills that students are to learn. Differentiating the content requires that students are pre-tested so teachers can identify students who do not require direct instruction. Those students who demonstrate understanding of the majority of the concepts are not required to participate in direct instruction and may instead use different textbooks with different reading levels, or proceed to apply the concepts to problem solving and enriched or accelerated study (Waterman, 2007).

Several elements and materials are used to support instructional content. These include acts, concepts, generalizations or principles, attitudes, and skills. The variation seen in a differentiated classroom is most frequently the manner in which student gain access to important learning. Access to the content is seen as key. Teachers should align tasks and objectives to learning goals. Goals are most frequently assessed by many high-stakes test at the state level and frequently administered standardized measures (Landsman & Gorski, 2007). The content of instruction should address the same concepts with all students but be adjusted by degree of difficulty for the diversity of learners in the classroom.

Tomlinson (2001) encourages teachers to embrace state standards as a way to support excellent curriculum. Instruction is guided by state, national and local standards that specify what students should know at predetermined levels of education. These standards provide a conceptual framework that enables educators to identify teaching priorities and directs curriculum design and assessment. Differentiated instruction is
considered during curriculum planning as the needs of students are taken into account for learning experiences.

While standards direct the curriculum and focus learning goals, teaching the standards creatively is the educator’s role. Differentiated instruction techniques and strategies, coupled with the backward design process, are viable tools that can be used to alter and adjust existing curriculum to meet the needs of all learners (Kingore, 2004). Key principles typical of a differentiated instruction classroom should be at the forefront of planning and should provide a measure of the effectiveness of differentiated instruction for administrators, students, and teachers (Tomlinson, 2003).

When differentiating by content, teachers vary the materials in which students are working. This can include activities such as flip books, reading buddies, books on tape, note-taking organizers, different texts and supplementary materials, highlighted texts, or think-pair-share (Kingore, 2004). Fortunately, differentiation of content exists on a continuum of difficulty, ranging from giving few directions to many directions and from concrete to abstract tasks. Teachers match the starting point in the content with the child’s readiness level. The goal is to move children along the continuum as quickly and as deeply as they can.

*Process Differentiation*

Differentiating the process means varying the presentation of content including the learning activities for students. The process is the performance task that enables students to practice and make sense of the content. Differentiating the process provides students with alternative paths to explore the concepts. Student may, for example, create a graphic organizer to illustrate their comprehension of a particular concept. By
modifying the complexity of the graphic organizer for certain students, the teacher can provide multiple levels of cognitive processing for those with varying abilities (Tomlinson, 2004).

Differentiating according to process is achieved using open-ended tasks, ranging on a continuum of simple to complex. These tasks are created by the teacher so that more than one correct response and way of approaching the problem exist (Tomlinson, Brimijoin, & Narvaez, 2008). Worksheets are replaced with activities that encourage active thinking. For example, graphic organizers permit students to respond to the best of their abilities, which allows for the wide range of readiness in mixed-ability classrooms. Students then build on correct responses with additional activities. Generally, multiple formats are used to scaffold for students who need extra help (Kingore, 2004).

Because differentiating by process means that students are working on different activities at the same time, it is often challenging for teachers to envision precisely how this method will work. It is important to keep in mind that educators do not need to be present for all learning. While the teacher meets with individual students or small groups, it can be very effective for the other students to work at learning centers of study labs, alone or in groups (Danielson, 2006).

*Product Differentiation*

Differentiating the product is another effective way to differentiate instruction to accommodate individual student needs. Educators should offer students choices on how to present the end product following a unit of study. The product is the outcome of the lesson, possibly an assessment or project. Differentiating the product varies the complexity of the medium that assesses students’ mastery of the concepts (Tomlinson,
For example, students may be offered a choice of projects and those working above grade level may be required to produce work that requires more critical thinking. Teachers can differentiate at least four classroom elements based on student readiness, interest, or learning profile: (a) content—what the student needs to learn or how the student will get access to the information; (b) process—activities in which the student engages in order to make sense of or master the content; (c) products—culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit; and (d) learning environment—the way the classroom works and feels (Tomlinson, 2004).

A few examples of differentiating content at the elementary level include: (a) using reading materials at varying readability levels; (b) putting text materials on tape; (c) using spelling or vocabulary lists at readiness levels of student; (d) presenting ideas through both auditory and visual means; (e) using reading buddies, and (f) meeting with small groups to re-teach an idea or skill for struggling learners, or to extend the thinking or skills of advanced learners (Tomlinson et al., 2008).

Some examples of differentiating process or activities at the elementary level may include: (a) using tiered activities through which all learners work with the same important understands and skills, but proceed with different levels of support, challenge, or complexity; (b) providing interest centers that encourage students to explore subsets of the class topic of particular interest to them; (c) developing personal agendas (task lists written by the teacher and containing both in-common work for the whole class and work that addresses individual needs of the learners) to be completed either during specified agenda time or as students complete other work early; (d) offering manipulative or other
hands-on supports for students who need them; and (e) varying the length of time a student may take to complete (Tomlinson et al., 2008).

Various examples of differentiating products at the elementary level include the following: (a) giving students options of how to express required learning (e.g. create a puppet show, write a letter, or develop a mural with labels); (b) using rubrics that match and extend students’ varied skills levels; (c) allowing students to work alone or in small groups on their products; and (d) encouraging student to create their own product assignments as long as the assignments contain required elements.

Assessment in Differentiated Instruction

A key to differentiated instruction is assessment prior to planning the details of a lesson. Assessment is perhaps the most important component of differentiating instruction. Not enough can be said about authentic assessment. Basically, what it means is that students are tested on what they have been taught, and hopefully, what they have learned. The greatest implications are that: curriculum is aligned with what is expected to be learned; strategies used to teach are according to students’ needs; and assessment instruments used are flexible and adequately and appropriately used to measure on-going performance (Taylor & Nolen, 2005). The bottom line is that authentic assessment offers students the opportunity to meet standards that are aligned to the curriculum.

In the same vein, research has indicated that students whose instruction matched their pattern of abilities on intelligence scales performed significantly better than others; this is true if simply assessing students on their intellectual strengths, analytical (recall and analysis), creative (imagine or design), and practical (use or implement), student
achievement can improve (Sternberg, 1997). Teachers may begin to see the concrete evidence they need to address individual student needs. Furthermore, student might be better able to recognize what types of tasks they may find successful in the future.

Assessing students at the beginning of the year enables teachers to identify attitudes, interests, and learning styles. While using text materials provide insight into individuals’ reading abilities, pre-assessing students prior to beginning instructional units of study allows for the determination of the level of background knowledge, skill, and understanding (Tomlinson et al., 2008). It is with these findings that teachers can begin to build a skills and interest inventory for each student.

Whether a child is working alone or in a small group may often be a matter of student choice. However, the content and skills on which the student is working are based on the teacher’s ongoing evaluation of that student’s needs. These ongoing assessments should measure both what students have learned and what weaknesses remain. That being said, there are an enormous number of ways that this can be accomplished. Little consensus exists as to precisely how students should be measured, but assessment in differentiated instruction should be directly based on how the curriculum is being taught to each child (Kingore, 2004). If the content is different, the evaluation should be different. If the methods are different, students should be evaluated based on the method in which they learned. When assessment is clearly rooted in what is happening in the classroom, the teacher is much more likely to gain a clear and accurate picture of each student’s needs and successes (Berry, Johnson, & Montgomery, 2005).

Assessment is a vital component of differentiated instruction. Obviously, teachers cannot meet students at their own levels if they do not know where those levels are.
Traditionally, assessment is summative, or given at the end of a unit to find out what the students have or have not learned. In a differentiated classroom, assessment is also formative, or ongoing and diagnostic (Tomlinson, 2004). This type of assessment gives data on readiness, interests, and learning profiles, allowing the teacher to modify instruction. This data can come from small group discussions, journal and portfolio entries, interests surveys, skill inventories, pre-tests, or exit cards. Summative assessment is still used to benchmark points, such as end of a unit, to formally record student growth. Even with this more traditional application, assessment can be performed in varied ways so that students can show their full range of knowledge (Tomlinson, 2004).

Readiness

Differentiated instruction embraces the concept of readiness. Educators should provide an on-going assessment of students to determine their readiness to advance to the next level. The concept of readiness is based on the work of the Russian psychologist, Lev Vygotsky (1978), and the zone of proximal development (ZPD). When differentiating by readiness, teachers give more challenging assignments to advanced learners and more basic ones to struggling learners. All students must be engaged in respectful work which teaches essential understandings, rather than having higher-performing students doing interesting work and lower-performing students doing dull drills. Teachers must be careful to adjust the actual nature of the assignment rather than merely giving more work to a student with mastery and less to a struggling student. Rather, assignments need to provide multiple approaches to process, content, and product (Tomlinson, 2003). Student readiness to learn is a more dependable barometer than
chronological age when determining how rapidly students should progress through their studies (National Research Council, 1999).

**Interest**

Tomlinson and McTighe (2006) contends that interest affects a student’s motivation to learn. To determine a student’s areas of interest, some educators utilize an interest inventory in the planning process. The differentiated instruction teacher may use the information derived from the interest inventory to create a learning profile for each student. When differentiating based on student interest can also be very successful, particularly for struggling or unmotivated students. Differentiating by interest is very validating for students. It makes school lessons relevant to their lives and supports them in making connections between concepts, both of which increase student performance and retention of concepts.

Tomlinson (2004) found that allowing students to choose their own reading material helped to create a positive attitude toward reading through a strong sense of personal involvement with the textual material. Additionally, the researchers found that after participating in an individualized instructional program with interest-based, self-selected materials, children increasingly viewed themselves as learners. This sense of self-efficacy is vital to students’ continued success in the classroom.

Allowing students to read and respond to self-selected materials is one of the simplest ways teachers can differentiate by interest. Other strategies include expert groups, author studies, individual learning goals, working alone or in groups, and allowing students choices in where to sit, in which order to complete the tasks, roles in cooperative learning, and different content for writing prompts (Tomlinson, 2003).
**Learning Profile**

The profile may be shaped by a student’s gender, culture, learning style, intelligence preference, or a combination of those factors (Berry et al., 2005). Differentiating according to learning profiles often means that teachers need to base assignments on students’ differing rates of learning. Students who understand ideas at different speeds need time to work at their own pace. Slower learners, in particular, need extra time to comprehend the material and to explore ideas.

Students who work more quickly may benefit from curriculum compacting. This consists of compressing the regular curriculum into a shorter time for students with a faster rate of learning. These students then go on to alternative assignments. Danielson (2006) strongly emphasizes that these students need alternative activities, not activities in addition to the regular curriculum. Otherwise, faster learners may feel that they are being punished.

**Teacher Attitudes toward Differentiated Instruction**

Research on teachers’ thought processes has focused on how teachers make sense of their world of teaching. Hence, studies over the past twenty years examining teacher thinking have been based on the underlying assumption that teacher thinking, beliefs, and attitudes are linked to behaviors and actions (Hall, 2005). Research has further examined how teachers interpret events in the classroom. It is known that attitudes have a profound impact on teacher practices and behaviors (Raths, James & McAniab, 2003). Attitudes and beliefs, however, are not a substitute for research-based practices that promote high achievement. Teachers’ attitudes can directly affect relationships of mutual respect and trust between teacher and student. Ultimately, if teacher attitude toward teaching is good
and desirable, it will make the teaching in turn learning effective (Rajeswari, Santhanam, Babu, & Rao, 2008).

The attitudes that teachers hold regarding their students, their capacity to learn, their willingness to work hard, and their worth as individuals influence all exchanges between teachers and students in the classroom (Rajeswari et al., 2008). Often, teachers influence student self-perceptions in unconscious ways. Research indicates that parents and teachers are most influential over student outcomes, including grades and achievement.

Novice Teachers

Novice teachers may bring with them to the classroom teaching attitudes that relate to outlier populations such as gifted students, who are academically advanced and whose learning differs in significant ways from their peers. Research suggests that attitudes will shape ways in which novices interpret their experiences in the classroom. These attitudes may stem from their own schooling experiences and how their teachers handled academically diverse learners in their classrooms.

Although novice teachers may enter and leave teacher preparation programs with a set of beliefs about instruction, they are not able to practice teaching as would an experienced teacher (Ryan & Cooper, 2007). Novice teachers typically focus on concerns about class control, being liked by students, and opinions and evaluations of supervisors. In addition, they become more negative, rigid, and authoritative.

Research indicates that novice teachers are more likely to alter lessons in response to student requests or interests than student performance (Ryan & Cooper, 2007). Research indicates that they are more likely to focus on information related to classroom
management than on information related to instruction (Marzano et al., 2001). Research has shown that negative teacher attitudes may lead to decreased student learning. It is particularly important to study the attitudes of teachers because of their direct impact on the student and learning (Oreck, 2004). Their attitudes have been shown to affect the student achievement and motivation. Ryan and Cooper (2007) contend that novice teachers express a strong belief in addressing student differences. Therefore, as teachers become more experienced and acquire more content knowledge and pedagogical knowledge, they should attempt to focus on differing need of individual students. The academic diversity of today’s classrooms demands teachers to meet individual student needs. The ability to differentiate instruction can be developed over time, however first it must be set into motion.

Veteran Teachers

Veteran educators without training in teaching diverse students appear to be less tolerant in the classroom than are educators who have training in diverse groups (Marzano, 2003). Novice teacher attitudes may also correlate positively with their knowledge of gifted students. In general, experienced teachers prefer working with students of average or above-average ability to working with struggling students (Glasgow, McNary, & Hicks, 2006). Yet, many educators tend to view gifted learners in less favorable and more stereotypical ways (McCoach, 2007).

As teachers attempt to make sense of the increase in diverse classrooms, they are faced with a multitude of additional responsibilities and concerns that could understandably divert their attention away from differentiating instruction. Nonetheless, teachers have the opportunity to leave an indelible impression on their students’ lives.
School experiences mold, shape, and can influence how children view themselves inside and outside the school. These school memories have the potential to last a lifetime in students’ minds and can play a consequential role with present and future decisions. It does not take long for students to realize that teachers make the difference between a long a boring school year and an exciting and challenging year.

The effective attitudes and actions employed by teachers ultimately can make a positive difference on the lives of their students. There is potential in every student, and teachers’ attitudes can leave lasting impressions. Most veteran teachers usually care, like accept, and value their students. Hence, these teachers will demonstrate kindness, share responsibility, accept diversity, foster individual instruction, and encourage creativity. Students deserve the opportunity to have a teacher who will be waiting at the end of each student road block or challenge with a smile. In the same vein, it will be that optimistic teacher attitude that will encourage the student to continue toward successful achievement.

*Professional Development*

Professional development for educators should focus on three dimensions: how to build on the value work already in progress and to formulate new standards of practice; how to embed new strategies in the day-to-day work of all employees; and how to support the implementation of change. Moreover, to deal effectively with the changing motivation and sense of responsibility students bring to class, educators need a forum in which they can exchange their observations about students and develop professional interventions as members of a learning community (Oreck, 2004).
For every new implementation, some type of professional development is required that addresses attitudes and skills over an extended period of time. Teachers must be competent professional educators who continuously strive to strengthen their relationship with their students and parents (Marzano et al., 2001). It is important that teachers continually have professional development in order to know the best possible teaching strategies.

Teachers are as different as their learners. Some teachers naturally differentiate instruction on a daily basis. Others however, experience great difficulty implementing differentiation into their daily routine. Hence, many teachers were not trained in pre-service programs on how to differentiate instruction. Therefore, it would be the responsibility of the school system to increase teacher knowledge through effective professional development. Nearly all educators agree that differentiating the instruction and curriculum is important. However, many fail to implement differentiated instruction into the curriculum.

Oreck (2004) suggests that the leading challenge to implementing differentiated instruction in the classroom concerns time and training. She contends that the only way to address these concerns is through effective professional development that strongly encourages teachers to apply the skills and then provides coaching throughout the process of moving toward differentiation as a teaching approach. Research indicates that professional development is one of the main components to supporting struggling learners.
Strategies for Differentiating Instruction

In a body for differentiated instruction, strategies for differentiating instruction can be identified as the heart. Differentiated instruction is about using teaching strategies that connect with individual student learning strategies. The ultimate goal is to provide a learning environment that will maximize the potential for student success (Tomlinson et al., 2008). The important thing to remember is to hold on to the effective teaching strategies that lead students to positive learning outcomes and to make adjustments when necessary.

Differentiated instruction is also about being flexible and open to change. It is about taking risks and trying teaching and learning strategies that many teachers have otherwise ignored (Forsten, Grant, and Hollas, 2002). Research suggests it is about managing instructional time in a way that meets the standards and also provides motivating, challenging, and meaningful experiences for school age students who are socialized to receive and process information in ways that require differentiation of experience.

Strategies to differentiate instruction focus on three key areas: (a) the pace at which the student learns; (b) depth of knowledge and understanding; and (c) student interests. It is important to note that differentiated instruction is not a single instructional strategy, but rather a methodology that blends a variety of strategies (Tilton, 2003). Diversity in assignments, products, and pacing allow students to work at their own level of challenge and achieve their own levels of success.

Tomlinson et al. (2008) encourage the development and use of a variety of teaching strategies for each individual student. This approach to learning enables
students to learn using their own unique styles and diversities to learn. Educators must recognize that students come to school with diverse readiness, interest, multiple intelligences, and styles of learning, languages, and cultures. Educators are responsible for understanding these differences and making sure that all students are provided a variety of ways to learn to succeed (Armstrong 2009). The chance for success and an increase in student achievement is attainable when teachers provide multiple paths of learning for students (Marzano, 2003).

Differentiated instruction is not about creating an individualized daily lesson plans for each and every student. Due to class sizes, state and district mandates, and many other factors, few teachers realistically have the time, resources, or energy to differentiate to that degree (Forsten et al., 2002). Differentiated instruction is about understanding the needs and abilities of your class and providing alternatives within multiple, but manageable constraints. Therefore, instructional strategies must address the diversity of students, accommodate for mobility, and invite collaboration within the classroom. Some successful differentiation strategies include:

Tiered Assignments (readiness) are designed to instruct all students on the same objectives but at different levels of difficulty and open-endedness. There may be two or more tiers per assignment. The tasks at each tier allow students to process the information and gain understanding at their own ability level (Tilton, 2003).

Compacting (readiness) is the process of modifying instruction by determining those basic skills students have already mastered. The practice or repetition of those skills is replaced by more challenging options (Tilton, 2003). Alternatives may include enrichment or accelerated study.
Centers or Groups (readiness/interest) are usually used with secondary students, while interest centers are generally used with elementary students. Both centers and groups are designed so that learning experiences relate to a specific interest. Student may select a topic generating increased motivation. Groups give students opportunities to research, problem solve, and work cooperatively (Forsten et al., 2002).

Learning Contracts (readiness/learning profile) is a written agreement between the teacher and the student. The teacher specifies the concepts and skills to be learned and the required components of the assignments. The student identifies the methods for completing the tasks (Chapman & King, 2003). The contract allows the student to work independently while setting daily and weekly work goals and developing management skills. It also eliminates unnecessary skill practice.

Flexible Grouping (readiness/interest/learning profile) is called “flexible” when student are not assigned to the same group of each task or area of study. Students may be placed in a group based on readiness, interest, or learning profile. Teachers or student may designate groups. This flexibility allows students to interact with a variety of their peers without being identified with any specific group or ability level (Tomlinson, 2004).

Cubing (readiness/interests/learning profile) is a strategy that helps students perceive an idea or concept form six different points of view. Each of the six faces of a cube represents a different perspective for an idea. A student rolls the cube and completes the activity that is displayed on the top face of the cube. The tasks on each face vary in difficulty, and not all students/groups receive the same cube. The tasks may be differentiated by readiness, interest, or learning profile (Forsten et al., 2002).
Independent Study Projects (readiness/interest, learning profile) are research projects where students develop the skills for independent learning. The ultimate objective of this strategy is to encourage and prepare the learner to initiate, direct, and complete his own project in areas which are of personal interest and value. The degree of structure and assistance from the teacher will vary depending on the student’s ability to manage time and productivity (Tomlinson, 2004).

Learning Stations involve setting up different spots in the classroom where students work on various tasks simultaneously. These stations invite flexible grouping because not all students need to go to all stations all the time. The teacher can adjust the various tasks in each station depending upon the student’s readiness or interest.

Entry Points is a strategy from Howard Gardner which proposes student exploration of a given topic through as many as five avenues: narration (presenting a story), logical-quantitative (using numbers or deduction), foundational (examining philosophy and vocabulary), aesthetic (focusing on sensory features), and experiential (hands-on).

Choice Boards give students work assignments that are written on cards which are placed in hanging pockets. By asking a student to select a card from a particular row of pockets, the teacher targets work toward student needs, yet allow student choices (Roberts & Inman, 2007)

Cooperative Learning Groups have been used for many years. These groups have been defined as the use of small groups such that students work together to maximize their own and each other’s learning. Grouping is a popular strategy that allows students to be grouped according to readiness, interest, or learning profile.
Differentiating instruction offers a variety of approaches to what students learn, how they learn, and the method they use to demonstrate mastery of their learning (Chapman & King, 2003). Furthermore, it engages students and allows them to take greater responsibility and ownership of their learning, while providing opportunities for peer teaching and cooperative learning. In any case, in order for students to reach their full potential, teachers must teach content effective, and teach students effectively (Tomlinson et al., 2008). Differentiated instructional strategies provide a vehicle for meeting individual student needs.

Summary

At a time when teachers and educators are being criticized for low student achievement, many people are looking for promising alternatives to conventional teaching practices that leave less to chance. Therefore, teachers can no longer teach in isolation of their classroom. Teachers can no longer talk at students. There must be an open line of communication between teacher and students on content knowledge and how to learn that knowledge. The United States educational system at all levels prides itself on attempting something no other country does and that is educating everyone (Danielson, 2006). For this reason, the U.S. is often criticized for its rankings compared to other countries, especially in mathematics and science. However, quality cannot be sacrificed for quantity. If we are going to educate everyone, DiMartino & Miles (2004) suggests that fair is not always equal and that education requires educators to embrace the diversity in gender, ability, ethnicity, and physiologically. Students are different and unique and successfully educating them required acknowledging and embracing these unique differences (DiMartino & Miles, 2004).
Differentiated instruction provides a map with multiple paths to the destination which, hopefully, is success for all. As a whole, the literature related to teacher attitude, student achievement, and differentiated instruction has many implications for practice and research. There is ample evidence that the population in American public school will continue to include students with a wide range of learning needs. The demands for accountability and the pressure to have all students reach high levels of academic achievements makes the ability to plan and implement effective instruction a critical skill for every teacher. Tomlinson (2003) provides strong theoretical and research-based support for differentiation of curriculum and instruction in response to student readiness, interests, and learning profile to more effectively meet the needs of academically diverse learners. The literature also supports several approaches for facilitating the development of skills in differentiated instruction. The theory of Multiple Intelligences (Gardner, 2004), Bloom’s Taxonomy (Bloom, 1956), Vygotsky’s Theory of Learning (Vygotsky, 1978), and other grounded theory help teachers focus on the specific needs of individual students. As a result, research supports differentiated instruction has a positive impact on teacher attitudes and academic achievement.

This literature review has provided only a sampling of the effectiveness of differentiated instruction in the classroom. It is important for educators to remember that everyone has a variety of diverse strategies when teaching. Tomlinson et al. (2008) argue that there is no single way to implement an instructional strategy. At the same time, it is imperative to keep in mind why we teach. Sternberg and Gringorenko (2007) stress the need for teachers to be aware of how diversity affects both teaching and learning. They contend that dealing with diversity may then be interpreted as a communications
challenge between teacher and learner. To read and respond constructively to our students’ and our own preference is the job of teaching (Tomlinson, 2004).

Differentiated instruction is just one way to engage all individuals. In this age of information, more than ever, educators now realize meeting individual student needs is vital to student achievement and success.

Gregory and Chapman (2002) argue that knowing the learners and consciously and strategically planning to address their styles, intelligences, and learning preferences will increase the chances of engaging them and offering a variety of ways to learn.

Student success is crucial. Tomlinson (2004) claims the goal of education is learning for our children. In addition, we live and teach in a world of standards where countless directions can overwhelm us, disorient us, or make us forget our purpose. Therefore, the goal is to guarantee that our students receive a meaningful education. Differentiated instruction is a tool that can provide students the opportunity to be successful. Educators must be willing to make the necessary changes in order to allow students to learn through a variety of ways (Howard, 2007).

Differentiated instruction is a developing topic, ranging from the theoretical concepts that support creation of a differentiated classroom to the very practical techniques used to do so. The research questions address the attitudes of teachers that effect implementation of differentiated instruction. The literature suggests that differentiated instruction is an outstanding way to assist individual students learn; additionally, numerous strategies exist that are suitable for modification and use in early elementary school. While differentiated instruction is an excellent way to ensure that all children are learning in a manner commensurate with their knowledge and skill levels,
creation of a differentiated classroom is a complex process (Tomlinson & McTighe, 2006).
CHAPTER III

METHODOLOGY

Introduction

This chapter describes the methodology and procedures that were used in this study. The researcher investigated the effect of teacher attitude towards differentiated instruction in third grade Language Arts. It includes the overview of the design and a brief description of the population that was surveyed. The chapter includes a description of the participants, instrumentation, procedures, data analysis and a summary.

Research Design

This study is descriptive in nature. Such studies seek to describe a particular situation and explore the relationships between variables. This study implemented survey research to gather quantitative data that allowed the researcher to analyze the individual items on the questionnaire. The independent variables in this study were teacher education, teacher experience, National Board Certification, and professional development training. The implementation of quantitative research methods allowed the researcher to analyze data for significant variations in teacher attitudes toward differentiated instruction. Quantitative research allowed the researcher to become familiar with attitudes toward differentiated instruction and generate research questions to be measured.

Participants

The participants in this study included third grade Language Arts teachers of a state located in the southern region of the United States during the school year of 2009-2010. The researcher maintained anonymity of all personal names and school districts.
Participants were informed that data received was used for research purposes only. The third grade was chosen because it is the first area of testing for southern states. Recent southern state test scores identified Language Arts as an area in which the state needs to focus in terms of student achievement. The surveys were administered over a period of at least four weeks allowing time for teachers to participate. All elementary schools across the state were included in this study. Some schools were high achieving schools. Others were schools that were in school improvement plans or average performing. The researcher emailed principals of participating schools and requested that teachers were encouraged to participate.

Instrumentation

The instrument (Appendix A) used in this study included a teacher survey with a Likert scale and three demographic questions. The survey was divided into two sections. Section I, Affect, consisted of twelve questions regarding teacher attitude toward differentiated instruction and professional development training. Section II, Demographics, consisted of four questions concerning teacher experience, education, National Board Certification, and training. The information collected from the demographic questions was used to analyze the data. The researcher included the survey cover letter (Appendix B) with each survey. Permission to use this survey instrument was granted and evidence was provided in (Appendix C) via email. Permission to begin this study was granted by the university’s Institutional Review Board (Appendix D).

Survey

The data was analyzed based on responses from third grade Language Arts teachers across the state of Mississippi. The survey was a Likert Scale which was part of
a doctoral study entitled: Mandated Implementation of Differentiated Instruction and Effectiveness Examined completed in conjunction with Walden University. The survey was validated by Rick Wormeli and Carol Ann Tomlinson. The responses read SA, A, N, D, and SD. The survey was two pages. The expected time to complete to complete the survey was approximately fifteen minutes, which increased the chances of teachers participating in this survey. The survey was used to measure teacher attitude towards the implementation of differentiated instruction in third grade Language Arts classrooms. The permission to use this survey was included as Appendix C.

Reliability

The survey was offered to third grade Language Arts teachers in one hundred fifty-two school districts across Mississippi during the 2009-2010 school year. The survey determined teacher attitude towards differentiated instruction. This survey was designed by a doctoral student at Walden University based on the topic of attitudes towards differentiated instruction. An expert in the field, Carol Ann Tomlinson, reviewed the survey in order the validate it. Dr. Tomlinson is a professor at the University of Virginia and is considered the leading expert and pioneer of differentiation. She is the author of numerous books and articles, many of which were part of the literature review. Another educational researcher, author, speaker, and expert on differentiation is Rick Wormeli. He also reviewed the survey in order to validate them. Expert group analysis was used for this instrument. A Cronbach’s alpha test to ensure reliability was performed on this survey. The coefficient alpha or Cronbach alpha is .82 which translates into high reliability.
Validity

Two expert educational researchers previously described in the study, Carol Ann Tomlinson and Rick Wormeli, provided validation for the survey instrument.

Procedures

Data collected for this study was quantitative data gathered using a teacher questionnaire (Appendix A). Every third grade Language Art teacher from each school district in Mississippi received a questionnaire pertaining to their attitude toward differentiated instruction. Prior to sending out questionnaires, permission to begin my study was granted by the university’s Institutional Review Board. When the researcher received a sufficient number of teacher responses, the data was collected and analyzed.

Data Analysis

Following the collection of the surveys from the teachers, the data was analyzed to answer the research questions presented in this study. The researcher imputed data into the SPSS computer program to analyze the data. Descriptive statistics were utilized to analyze the data in the questionnaire.

Teacher attitude was the independent variable. However, teacher education, teacher experience, National Board Certification, and teacher training were levels in the statistical analysis. The .05 level of significance was used to identify a significant difference in third grade teacher attitudes toward Differentiated Instruction across the state. Questions 1-9 addressed National Board Certified teachers’ attitudes towards differentiated instruction. Whether or not teacher education or teacher experience affects teacher attitude towards differentiated instruction was addressed in questions 1-9 as well. Questions 10-12 investigated if professional development training affects teacher attitude

Summary

The methodologies and procedure in this study examined teacher attitudes toward differentiated instruction. The researcher investigated attitudes towards differentiated instruction in third grade Language Arts classes to clearly understand what factors influenced teacher acceptance of the differentiated instruction model and its associated strategies.
CHAPTER IV
ANALYSIS OF DATA

Introduction

The purpose of this study was to investigate teacher attitude toward differentiated instruction in third grade language arts classrooms across Mississippi. A survey was mailed to 400 third grade teachers across the state of Mississippi to determine if there were significant differences in their attitudes toward differentiated instruction based on teacher experience, education, National Board Certification, and Professional Development. An Analysis of Variance (ANOVA) was used to analyze responses to the question on the Teacher Survey. The researcher will present the results of the statistical analysis generated by data collected.

The findings of this study were collected to answer the following research questions:

1. Does National Board Certification affect teacher attitude toward differentiated instruction?
2. Does teacher education affect teacher attitude toward differentiated instruction?
3. Does teacher experience affect teacher attitude toward differentiated instruction?
4. Does professional development affect teacher attitude toward differentiated instruction?
Demographics

The participants of this study included 400 third grade teachers in the state of Mississippi during the 2009-2010 school years. Responses were received from 100 third grade teachers representing 25% of the 400 teachers who received a survey. Responses according to experience included 13 teachers between 0-3 years experience, or 13%, 17 teachers between 12-15 years of teaching experience, or 17% (see Table 1).

Of the 100 teacher education responses, 46 teachers, or 46% hold Bachelor of Arts degrees. Forty-six teachers or 46% have a Master’s degree.

When calculating data of multiple teacher responses, 90% of the teachers surveyed received two days or more professional development on differentiated instruction. There were 45% participating in one day or less professional development.

The participants selected differentiated instructional strategies in which they were most familiar with or implemented into their instruction. Centers or Groups received 95 teacher responses, or 95%. (Table 1).

Table 1

*Frequencies and Percentages of Demographic Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-3</td>
<td>13</td>
<td>13.0</td>
</tr>
<tr>
<td>4-7</td>
<td>15</td>
<td>15.0</td>
</tr>
</tbody>
</table>
Table 1 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-11</td>
<td>16 16.0</td>
</tr>
<tr>
<td>12-15</td>
<td>17 17.0</td>
</tr>
<tr>
<td>16-19</td>
<td>7 7.0</td>
</tr>
<tr>
<td>20-24</td>
<td>10 10.0</td>
</tr>
<tr>
<td>25-30</td>
<td>12 12.0</td>
</tr>
<tr>
<td>31+</td>
<td>10 10.0</td>
</tr>
</tbody>
</table>

**Education**

- Bachelor of Science (BS) 46 46.0
- Master’s (MS) 46 46.0
- Education Specialist (EdS) 7 7.0
- Doctorate of Philosophy (PhD) 1 1.0

**Percentage**

**National Board Certification**

- Yes 8 8.0
- No 92 92.0

**Staff Development**

- School District 90 90%
- External Expert 45 45%
Table 1 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centers or Groups</td>
<td>95</td>
</tr>
<tr>
<td>Learning Stations</td>
<td>76</td>
</tr>
<tr>
<td>Cooperative Learning Groups</td>
<td>81</td>
</tr>
<tr>
<td>Independent Study Projects</td>
<td>47</td>
</tr>
<tr>
<td>Tiered Assignments</td>
<td>62</td>
</tr>
</tbody>
</table>

Descriptive Statistics Criteria

The following findings address the first twelve questions that third grade language arts teachers across the state of Mississippi were asked concerning their attitude toward differentiated instruction. Section 1, criteria, consisted of questions 1-14 which focused on various teacher attitudes toward differentiated instruction (Table 2).

Table 2

Descriptive Statistics of Survey Questions 1-14

<table>
<thead>
<tr>
<th>Questions</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students learn the same</td>
<td>1.21</td>
<td>.409</td>
</tr>
<tr>
<td>Student can be taught the same way to get the same outcome</td>
<td>1.34</td>
<td>.497</td>
</tr>
</tbody>
</table>
Table 2 (continued).

<table>
<thead>
<tr>
<th>Questions</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a favorable opinion of differentiated instruction</td>
<td>4.16</td>
<td>.838</td>
</tr>
<tr>
<td>I feel confident I can develop differentiated units that are effective</td>
<td>4.13</td>
<td>.800</td>
</tr>
<tr>
<td>Lack of time keeps me from using differentiated instruction often</td>
<td>3.75</td>
<td>1.029</td>
</tr>
<tr>
<td>Given more time I would use differentiated lessons more often</td>
<td>4.05</td>
<td>.869</td>
</tr>
<tr>
<td>I rarely have to differentiate for students</td>
<td>1.87</td>
<td>.774</td>
</tr>
<tr>
<td>I know when differentiate instruction is effective in my class</td>
<td>4.18</td>
<td>.593</td>
</tr>
<tr>
<td>I am a teacher who differentiates instruction</td>
<td>4.10</td>
<td>.732</td>
</tr>
<tr>
<td>Training on how to differentiate instruction has been adequate</td>
<td>3.40</td>
<td>.937</td>
</tr>
<tr>
<td>Training I received on differentiated instruction helped planning</td>
<td>3.40</td>
<td>1.054</td>
</tr>
<tr>
<td>After professional development I was motive to differentiate</td>
<td>3.66</td>
<td>.819</td>
</tr>
<tr>
<td>I have had two or more days of professional development training</td>
<td>3.47</td>
<td>1.159</td>
</tr>
<tr>
<td>I have had one day or less professional development</td>
<td>2.46</td>
<td>1.275</td>
</tr>
<tr>
<td>Overall</td>
<td>3.74</td>
<td>.40</td>
</tr>
</tbody>
</table>

Note. Scale: 1 = SD; 5 = SA

Analysis of Variance Based on National Board Certified Teacher Attitude

Does National Board Certification Affect Teacher Attitude toward Differentiated Instruction?

The researcher conducted an Analysis of Variance (ANOVA) to determine if National Board Certification affected teacher attitude toward differentiate instruction. The results indicated that Research Question 1, National Board Certification had no
significant different in teacher attitude toward differentiated instruction, \( F (1, 98) = .86, \)
p = .356 (see Table 3).

Table 3

*Analysis of Variance of National Board Certification Affect on Differentiated Instruction*

<table>
<thead>
<tr>
<th>National Board Certification</th>
<th>Mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deviation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3.86</td>
<td>.403</td>
</tr>
<tr>
<td>No</td>
<td>3.72</td>
<td>.398</td>
</tr>
</tbody>
</table>

*Analysis of Variance Based on Teacher Education*

*Does Teacher Education Affect Teacher Attitude toward Differentiated Instruction?*

The researcher conducted an Analysis of Variance on Research Question 2. The results of Research Question 2 indicated teacher education no significant difference in third grade language art teacher attitude toward differentiated instruction, \( F (2, 99) = .608, p = .547 \) (see Table 4).
Table 4

Analysis of Variance of Teacher Education Affect on Differentiated Instruction

<table>
<thead>
<tr>
<th>Education</th>
<th>Mean</th>
<th>STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deviation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>3.74</td>
<td>.355</td>
</tr>
<tr>
<td>Master’s of Education</td>
<td>3.76</td>
<td>.438</td>
</tr>
<tr>
<td>EdS/PhD</td>
<td>3.59</td>
<td>.414</td>
</tr>
</tbody>
</table>

Pearson Correlation Based on Professional Development and Teacher Attitude toward Differentiated Instruction

Does Professional Development Affect Teacher Attitude toward Differentiated Instruction?

A Pearson Correlation was conducted to determine the relationship between professional development and teacher attitude toward differentiated instruction. The results indicate there is a significant correlation between teacher attitude and professional development. This would suggest that teachers who received two or more days of professional development were more positive toward differentiated instruction.

Therefore, the results for Research Question 4, does professional development affect teacher attitude toward differentiated instruction, indicates that professional development affects teacher attitude toward differentiated instruction. Those teachers indicating two or more days of professional development opportunities provided more positive attitudes toward differentiated instruction. The researcher concluded that given
more professional development opportunities yields more positive teacher attitudes toward differentiated instruction (see Table 5).

Table 5

*Pearson Correlation Based on Professional Development and Teacher Attitude toward Differentiated Instruction*

<table>
<thead>
<tr>
<th>Days</th>
<th>r</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or more days</td>
<td>.381</td>
<td>.001</td>
</tr>
<tr>
<td>1 day or less</td>
<td>-.268</td>
<td>.01</td>
</tr>
</tbody>
</table>

*p < .001

Summary

This chapter focused on the analysis of teacher attitude toward differentiated instruction. The results from the surveys supported the fact that teacher education, experiences, nor National Board Certification had a significant difference in teacher attitude toward differentiated instruction. However, the results did indicate a significant difference in teacher attitude toward differentiated instruction when provided two or more days of professional development.

The researcher investigated whether education, experience, National Board Certification or professional development affected teacher attitude toward differentiated instruction. The Pearson Correlation conducted determined that there was a significant
relationship between professional development and teacher attitude toward differentiated instruction.
CHAPTER V
DISCUSSION

As the schools continue to become more diverse, teachers will be called upon more than ever to challenge and prepare our students for academic success. It is no longer acceptable for teachers to conclude that some students just cannot make it or succeed. Therefore, teachers must be held accountable for motivating and meeting individual student needs which foster academic achievement and growth.

Teachers must be willing to go above and beyond instructing every child the same way. In my opinion, what you put into instruction ultimately effects what you get out of student performance outcomes. Hence, research supports the importance of teachers demonstrating positive attitudes towards daily instruction provided to individual students. Should teacher morale be driven by teacher experience? Should National Board Certification or teacher education have a significant barring on student performance? Is it acceptable that some students are allowed to fail year after year? The answer to all these questions is no.

The past decade has seen many innovations come to the field of educational instruction. Differentiated instruction is an alternative in which many schools may implement as an effective instructional strategy to meet the needs of diverse learners in heterogeneous classrooms. Tomlinson (2004) defined differentiated instruction as a teaching theory based on the premise that instructional approaches should vary and be adapted in relation to individual and diverse students in classrooms. While there are an increasing number of journal articles and published books written on differentiated instruction in various settings, research indicates there have been no major studies on the
effectiveness of differentiated instruction as a means of meeting the needs of all students in a heterogeneous classroom.

Summary of Findings

The purpose of this research study was to determine if teacher attitude affects differentiated instruction in third grade language arts teachers across the state of Mississippi. The intent of this study was to investigate what variables if any affect teacher attitude toward differentiated instruction in third grade language arts classrooms across the state of Mississippi. This study addressed four specific research questions:

1. Does National Board Certification affect teacher attitude toward differentiated instruction?
2. Does teacher education affect teacher attitude toward differentiated instruction?
3. Does teacher experience affect teacher attitude toward differentiated instruction?
4. Does professional development affect teacher attitude toward differentiated instruction?

Through the use of quantitative data gathering, the pattern emerged in support of the variable of professional development had a positive relationship to teacher attitude toward differentiated instruction. However, the variables teacher education, experience, and National Board Certification had no significant difference to teacher attitude toward differentiated instruction. The findings from this study are important as teachers plan lessons for the purpose of possibly improving teacher attitude toward differentiated instruction and student achievement. Until it is an expectation that all students achieve,
not all students will. It would be beneficial to students to change the teacher mind-set that some students will never be successful.

Teacher Motivation in the classroom must be addressed in order to increase student achievement. According to the findings of this study, differentiation can be seen as an effective way to enable more students to meet their state’s standards. Therefore, a focus must be on the instructional strategies occurring in the classroom.

The research of Tomlinson et al. (2008) align with the finding in this study as they promote and encourage the need for consistent ongoing professional development for third grade language arts teachers to increase positive attitude toward differentiated instruction. This study reinforced the finding in the literature review and presented a comprehensive understanding that contributes to differentiated instruction. Answers to each research question are summarized below:

**Research Question One**

Participants identified that a variety of instructional strategies were implemented within their classrooms. All National Board Certified teachers surveyed articulated a favorable opinion toward differentiated instruction. Based on their responses, a lack of time was a common denominator of teachers inability to implement differentiated instruction in their classrooms.

As indicated in Chapter IV, National Board Certification did not make a significant difference in teacher attitude toward differentiated instruction. This result is in direct alignment with Ryan, Kevin and Cooper, and James (2007). Some teachers say that board certification has reawakened their commitment to teaching, even kept them from leaving the profession. However, some districts remain skeptical; because they are
not sure they will get the only benefit that matters in education today: improved student achievement. The results of this study align with a previous research study from William Sanders, who works for the computer software company SAS. Sanders found that there was very little difference in effectiveness based up the National Board Certification status. This study concluded that teacher with National Board Certification did not articulate a more positive attitude toward differentiated instruction.

Research Question 2

Today’s classrooms reflect growing diversity in student learning needs, preferences, interests, and readiness. The typical teacher in Mississippi has been in the classroom for approximately fourteen years and is paid far less than teachers in other regions in the United States. Furthermore, Mississippi has 152 school districts serving nearly 500,000 students and employing over 32,000 teachers. There are a total of 1,055 schools within the state of Mississippi. Four hundred thirty-eight of those schools are represented by elementary schools. Approximately, 42% of the teachers across the state of Mississippi hold advanced degrees; far less than the national average of 56%.

The results in this study indicated no significant difference in teacher education and attitude toward differentiated instruction. The ANOVA data indicated that 46% of the participants earned a Bachelor’s of Arts degree (BA), 46% hold a Master’s degree, and 8% either have a specialist or doctorate degree. Teachers represent a diverse group of professionals within one school. Indeed, there will always be a variation in teacher education within any one school. Therefore, differentiation becomes each teacher’s unique way of addressing today’s academically diverse and increasingly challenging classrooms.
Research Question 3

The researcher concluded that all participants differentiate to some degree. Often times teachers stumble upon strategies that work for them. It is experience in the classroom which enables them to figure out what works and does not work toward increasing student achievement. As indicated in the literature review, novice teachers are more likely to alter lessons in response to student requests or interests than student performance (Ryan & Cooper, 2007).

Also, their attitudes have been shown to affect student achievement and motivation. Ryan and Cooper (2007) contend that novice teacher express a strong belief in addressing student differences. Therefore, in thinking about teacher experience with differentiation, one must carefully consider use of time, instructional planning, teacher resources, and strategies to foster student learning and growth. This supports the findings of this study in that as teacher become more experienced and acquire more content knowledge and pedagogically focused, they attempt to focus on differing need of individual students (Ryan & Cooper, 2007).

As stated in Chapter IV, the analysis of variance indicated teacher experience had no significant difference toward teacher attitude. However, the research in this study indicated that teacher attitudes have shown to affect student attitude and motivation. Furthermore, McCoach (2007) contended that the effective attitudes of experienced teachers ultimately can make a positive difference in the lives of their students. In this study, teacher experience ranged from 0-3 years teaching experience to 31 + years of experience.
The results indicated that there was a pretty even amount of participants within each interval of teacher experience. The most teachers in the study having taught between 12-15 years. Research indicates that the typical teacher in Mississippi has been in the classroom for approximately 14 years and is paid far less than teachers in other regions in the United States. Based on the survey responses, the researcher concluded that most beginning and novice teachers are beginning to develop an understanding of differentiation yet showed limited evidence of implementing strategies for differentiation in their classrooms. Those teachers having fifteen plus years of experience seemed to identify many strategies in planning for differences in their classroom. This does not support the literature in the review in that veteran teachers who are faced with a multitude of additional responsibilities and concerns divert their attention away from differentiating instruction (Glasgow et al., 2006).

**Research Question 4**

Participants having two or more days of professional development training articulated a more positive attitude toward differentiated instruction. The most frequent types of professional development activities occur within their own school. Professional development activities outside the school occur much less frequently (Guskey, 2002). Based on the teacher responses on the survey, most teachers received professional development training through the school district or external expert. The research supports the notion that a communication of large-scale (district) and context-specific (school) experience can optimize the benefits of each while improving the efficiency and effectiveness of professional development. Marzano et al. (2001) stressed the importance of teachers being provided continual professional development in order to know the best
possible teaching strategies. This study supports that because the participants of this study were not familiar with all of strategies involved in differentiating instruction.

The research in the literature review supported that most educators agree that differentiating instruction and curriculum are important. Yet, many fail to implement differentiated instruction into the curriculum. Therefore, the researcher concluded that teachers are in different places in developing their professional skills related to differentiation. As indicated in Chapter IV, there was a significant difference in teacher attitude toward differentiated instruction and professional development. Time and lack of training were also indicated as a barrier for implementing differentiated instruction. This supports the research findings as indicated in Chapter II.

Oreck (2004) suggested that the leading change to implementing differentiated instruction in the classroom concerns time and training. Therefore, research indicates the only way to address is through effective professional development which strongly encourages teachers to apply the skills and move towards differentiation as a teaching approach. The research results suggests the more time teachers spend in professional development activities the more likely they would indicate that it would improved their instruction. This research supports the finding in this study because the data indicated that those teachers receiving two days or more professional development had a positive attitude toward differentiated instruction.

Discussion

After implementing No Child Left Behind of 2001, schools across the nation have been analyzing data (e.g., standardized tests, state mandated tests) to ensure schools meet accreditation requirements. However, not all students and schools are showing academic
improvements. As a result, schools are implementing different strategies and having their teachers attend professional development to ensure that students are successful.

According to Gregory and Chapman (2002), differentiated instruction provides a variety of options to be successful. Educators who are concerned and involved in the contribution of students’ academic success need to be aware of what differentiated instruction can offer to every student. Just as Gardner’s Multiple Intelligences Theory states, it is important to remember that individuals have dominate learning styles, while at the same time utilize their lesser learning styles. Therefore, implementing differentiated instruction is one strategy that provides for all individuals, with all different learning styles, to be able to learn.

Heacox (2002) contends that all students have individual learning preferences, backgrounds, and needs. The data showed that National Board Certification was not significant in teacher attitude toward differentiated instruction. Hence, this finding contradicts some research which reported that teachers with National Board Certification play a significant part in increasing student achievement and motivation.

The results from this study also indicated that teacher education did not affect teacher attitude toward differentiated instruction. This analysis suggested that teachers with doctorate or Master’s degrees depicted no more of a positive attitude toward differentiated instruction than those teacher with merely a bachelor’s degree. This directly aligns with Gardner’s Multiple Intelligence Theory in that by understanding diversity within a classroom and how cultural differences may impact learning, a teacher can compliment his or her instruction to a student preferred way of learning. Furthermore, this being the case regardless of individual teacher education.
On the subject of teacher experience and attitude toward differentiated instruction, no significant difference was reported. The responses to the demographic section of the survey indicated that those teachers with 0-3 teaching experience attitudes were of no significant difference from those of 31+ years teaching experience. In essence, the research supports the greatest influence on student learning is what teachers model in their beliefs, words, attitudes, and behaviors (Armstrong, 2009).

Professional development for teachers is a range of formal and informal processes and activities that teachers engage in both inside and out of the school, in order to improve teaching knowledge and skills (Guskey, 2002). A significant positive correlation between teacher attitude and professional development was apparent in this study. It would suggest that teachers with two or more days professional development displayed a positive attitude toward differentiated instruction. As stated in the literature, the ultimate goal of professional development is improving student learning outcomes (Guskey, 1999).

Teachers in this study reported the more days professional development the more positive their attitude became toward differentiated instruction. Research indicates that the most frequent types of professional development activities occur within the school. Professional development activities outside the school occurs much less frequently. This directly aligns with the teacher responses on the survey pertaining to professional development practices. All participants received district or internal professional development.

Oreck (2004) suggests that the leading challenge to implementing differentiated instruction in the classroom concerns time and training. This directly aligns with the
results in the study. Time and insufficient training were significant factors which governed teacher attitude toward differentiated instruction. Research indicates that professional development is one of the main components to supporting struggling learners.

Limitations

Of the 400 surveys distributed, 100 (25%) were returned completed, the participants answered all questions. The responses were transferred to SPSS and descriptive, frequency distributions, and Pearson correlations were constructed along with an Analysis of Variance (ANOVA) to determine if there were any significant differences in teacher attitude toward differentiated instruction according to the independent variables National Board Certification, teacher education, teacher experience, and professional development. The Pearson Correlation was performed specifically for questions 13 and 14 of the survey pertaining to days of professional development.

In this study, teachers had the opportunity to identify attitudes and strategies related to differentiated instruction. However, participants in the study were limited to third grade Language Arts teachers across the state of Mississippi. In addition, the researcher focused on teacher attitude toward differentiated instruction. Other grade levels in elementary language arts were excluded. This study did not seek to measure student achievement, but instead to investigate the attitudes of teachers toward differentiated instruction. Additionally, this study did not attempt to determine how effective differentiated instruction was in relationship to student learning.
Recommendations for Policy or Practice

Results from this study indicate that National Board Certification, teacher education, nor teacher experience have a significant difference in teacher attitude toward differentiated instruction. However, there was significance difference in teacher attitude toward differentiated instruction based on whether or not teachers were afforded professional development opportunities. Hence, educators must respond to diversity by providing instruction that begins where the student is and takes into account their varying educational needs and interests.

According to the finding of this study, many teachers do not feel equipped to differentiate for a class of diverse needs and abilities. However, providing professional development may increase their ability and desire to differentiate instruction. This is not surprising because differentiation is a difficult practice to consistently implement into classroom instruction. Although worthwhile, most teachers reported they do not have sufficient time to implement it. A recommendation would be considering reducing class sizes so that teachers have an opportunity to work individually with students would significantly increase.

It was evident within this study that time was a factor in the significance of implementation of differentiated instruction. It would be recommended that teachers have the opportunities to participate in more professional development on differentiated instruction. The literature review supports the fact that more professional development could increase the implementation of differentiated instruction in third grade language arts classes. Hence, most school districts do not have the funding to implement additional professional development for teachers.
Differentiated instruction focuses on the needs of diverse learners. Basically, teachers identify each student’s Zone of Proximal Development and move them forward from there. As supported in the literature, differentiated instruction can best be accomplished by implementing the components: content, process, and product. The finding of this study revealed that teacher education, experience, nor National Board certification positively affected teacher attitude toward differentiated instruction.

Interestingly, the student indicated an increase in professional development opportunities resulted in more positive attitude toward differentiated instruction. The research of Tomlinson and McTighe (2006) align with the findings in this study as they promote and encourage the need for consistent professional development opportunities. Attending various workshops and training sessions is one of the many avenues to enhance teachers’ knowledge of how to reach each student so that success can occur.

Differentiated instruction emphasizes the needs of individual learners. Therefore, teachers require guidance from building principals, superintendents, and even school board committees. All students differ so teachers must attend to different needs by first creating unique instructional goals for each student. Principals can help teachers become successful by minimizing what is being taught and highlighting what students are learning. Blankstein, Houston, and Cole (2010) suggest principals make performance data available to teachers so that a connection can be made between student success and school curriculum. Also, teachers would be able to differentiate instruction to ensure mastery while moving students forward in the school curriculum.

As leaders of the school, principals bear the responsibility for differentiation because they respond to the needs of the teachers and students. Therefore, principals
should provide teachers opportunities for professional development and the support they need to help all students reach high performance levels. Specifically, principals provide teachers with textbooks, training, curriculum guides, and all necessary resources to meet the needs of individual students (Downey, Steffy, Poston, & English, 2009). In addition to professional development, principals should provide intervention and support systems for students who fail to demonstrate mastery. Interestingly, a focus on student learning usually means differentiating instruction to meet the needs of individual students. Every principal should promote the learning and success of all students by focusing on learning, using data to improve learning, and allowing professional development opportunities for teachers and staff (English, 2008).

It takes commitment of teachers, administrators, and students to make differentiation a reality. For superintendents and school board members, the challenge is to collaborate with administrators, teachers, and community about the best practices in education in our schools (Lunenburg & Carr, 2003). It is equally challenging for school superintendents and school board members to understand the importance of working with diverse populations to develop a common vision and goal. Superintendents and school board members must be the keepers of the vision of an instructional program that responds to the needs of all learners. Therefore, all administration must strongly encourage professional development opportunities for teachers. Interestingly, this is one way to address concerns of student success and moving toward differentiated instruction as a teaching approach.
Recommendations for Future Research

Differentiated instruction has been a buzzword in K-12 education for the past two decades but has only recently gained ground in public education today. Based on the findings of this study, time is a significant factor in the implementation of differentiated instruction in the classroom. Differentiated instruction is an approach that enables teachers to plan strategically to meet the needs of every student (Tomlinson, 2003).

This study focused on third grade language arts students across the state of Mississippi. Future studies need to include more grade levels across the state of Mississippi. Additionally, surveys of students and administrators would provide more insight into how differentiated instruction is being implemented. While there were several resources available on differentiated instruction in the literature, the researcher suggests additional resources be addressed and studies to determine if differentiated instruction increases academic student success.

This study could be replicated on a larger scale to see if these results hold true with other grade levels in elementary as well as middle and high school. It would be interesting to survey schools that implement differentiated instruction and school that do not, to see if those schools implementing differentiated instruction yield greater student achievement. This study contained a relatively small sample size. A larger scale study may help to determine the extent to which differentiation can impact teacher attitude and increase student achievement. By providing a detailed framework for differentiation, exact practices can be narrowed, so the research can focus on which practices work best for various ethnicity, disabilities, or economic status.
Conclusion

When teachers demonstrate a love for what they are teaching and are able to convince students’ of its relevance, students may achieve more. Differentiation can bring back to learning the love of teaching that has been lost form many educators in our highly accountable society. Based on data collected, teachers would demonstrate more positive attitude toward differentiated instruction if provided more professional development opportunities.

As a result, the researcher concluded that teacher attitude toward differentiated instruction hinges on professional development opportunities. If teacher attitude toward differentiated instruction is going to change, there must be continuous professional development opportunities for teachers. This would provide more support to all faculty and staff so that every child has the opportunity to succeed.
APPENDIX A

SURVEY

Returning the completed questionnaire implies consent for your participation.

Teacher Questionnaire

Study Title: The Effect of Teacher Attitude Toward Differentiated Instruction in Third Grade Language Arts Classrooms

This questionnaire will be used as part of a research study to determine teacher attitude toward differentiated instruction. Differentiated instruction is an instructional approach that is student centered and geared toward meeting the various needs of learners by providing multiple learning opportunities, standards-based instruction, and a safe, effective learning environment (Tomlinson, 2001). Your time and effort will be greatly appreciated. Your participation is completely voluntary and any data you provide will be kept confidential.

Please choose the best answer that reflects your opinions regarding the statement. The descriptors are below:

Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree

1. In my opinion all students learn the same.
2. Students can be taught in the same way to get the same outcome.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

3. I have a favorable opinion of differentiated instruction.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

4. I feel confident I can develop differentiated units that are effective.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

5. A lack of time keeps me from using differentiated instruction as often as I would like.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

6. If I had more time I would use differentiate lessons more often.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

7. I rarely have to differentiate for students.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

8. I know when differentiated instruction is effective in my class.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

9. I am a teacher who differentiates instruction.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
10. Training on how to differentiate instruction in my class has been adequate to my needs.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
5  4  3  2  1

11. The training/professional learning that I received during early release days in differentiated instruction was helpful to me in planning lessons.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
5  4  3  2  1

12. After professional learning I was motivated to differentiate instruction.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
5  4  3  2  1

13. I have had at least two days or more professional development on differentiated instruction.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
5  4  3  2  1

14. I have had one day or less professional development on differentiated instruction.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
5  4  3  2  1

15. I received professional development opportunities by the following:

_______school district

_______internal school mentor

_______external expert
16. Some strategies for differentiating instruction that I have used are:

- Centers or Groups
- Cubing
- Learning Stations
- Cooperative Learning Groups
- Independent Study Projects
- Tiered Assignments
- Compacting

**Demographic data: Please indicate below.**

13. Years Teaching Experience.

- 0-3
- 4-7
- 8-11
- 12-15
- 16-19
- 20-24
- 25-30
- 31+

14. Teacher Education.

- B.S.
- M.S.
- Ed.S
- Ph.D.

15. National Board Certified Teacher.

- Yes
- No
Dear Teachers:

I am currently a doctoral candidate at the University of Southern Mississippi under the guidance of Dr. Ronald Styron, Ph.D. For this dissertation, I will be collecting information on teacher attitude toward Differentiated Instruction in third grade Language Arts classrooms. I will then analyze the information to determine if teacher attitude effects implementation of Differentiated Instruction in classrooms. Upon completion, this information will be shared with my dissertation committee. To ensure confidentiality of teachers, no one will be identified by name including the school district, the location of the district, or the name of the school. I plan to begin collecting this data in November 2009 and be completed by May 2010.

As part of this study, I will be asking teachers to complete a survey to gather information about attitudes towards differentiated instruction in the classroom. While there are no inherent risks for participating in this study, I do need to inform you of the purpose and expected outcomes. I am hoping this research will raise awareness about teacher attitudes towards differentiated instruction.

In order to complete this study, I need your active participation in completing the survey and returning it to me at your earliest convenience. To assist you in successfully completing the process, I have included a self-address stamped envelope. Please set aside a few minutes of your instructional day to complete and return this survey. Thank you for your help in allowing me to collect this information.

Sincerely,

Vivian M. McLean

Doctoral Candidate

University of Southern Mississippi
Hi Vivian,

Congratulations on being a doctoral candidate. You have permission to use any or all of my survey.

It was validated by Rick Wormeli and Carol Ann Tomlinson.

Joan Graham

kjgraham@charter.net

678-943-1173

From: Vivian Mclean [mailto:vivianmclean05@yahoo.com]
Sent: Saturday, September 26, 2009 3:36 PM
To: kjgraham@charter.net
Subject: Permission to use Teacher Survey in Dissertation

Greetings Mrs. Graham,

My name is Vivian McLean. Currently, I am a doctoral candidate at the University of Southern Mississippi.

I am requesting permission to use your teacher survey on Differentiated Instruction. My study is about the effect of teacher attitude toward Differentiated Instruction. It is my hope that you will allow me to include your teacher survey in my study.

Respectfully,

Vivian McLean

228-343-1046

http://us.mc1100.mail.yahoo.com/mc/Bhttp://us.mc1100.mail.yahoo.com/
THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

119 College Drive #5147
Hattiesburg, MS 35406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- When appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 10032509
PROJECT TITLE: Teacher Attitude Toward Differentiated Instruction in Third Grade Language Arts
PROPOSED PROJECT DATES: 08/15/09 to 08/16/2010
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Vivian M. McLean
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Leadership & School Counseling
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 04/29/2010 to 04/28/2011

Lawrence A. Hosman, Ph.D.
HSPRC Chair

4-29-2010
Date
REFERENCES


Cianciolo, A.T., & Sternberg, R.J. (2004). *A brief history of intelligence.* Malden, MA:
Blackwell.


Books.


Hodge, P.H. (1997). An analysis of the impact of a prescribed staff development
program in differentiated instruction on student achievement and the attitudes of teachers and parents toward that instruction (Unpublished doctoral dissertation). University of Alabama, Tuscaloosa.


Tilton, Linda (2003). *The teachers toolbox for differentiated instruction*. Shorewood,


New York: Pearson.


