Theses and Dissertations   Graduate School

2009

AN ANALYSIS OF READING INSTRUCTION FOR FIFTH GRADE STUDENTS WITH DISABILITIES SERVED IN INCLUSIVE ELEMENTARY CLASSROOMS

Elizabeth Dragone
Virginia Commonwealth University

School of Education
Virginia Commonwealth University

Dissertation Approval Certificate

This is to certify that the dissertation prepared by Elizabeth Dragone entitled

An Analysis of Reading Instruction for Fifth Grade Students with Disabilities Served in Inclusive Elementary Classrooms

has been approved by her committee as satisfying completion of the dissertation requirement for the degree of Doctor of Philosophy.

_____
Director of Dissertation , Whitney H. Sherman, Ph.D.

_____
Committee Member, William C. Bosher, Ph.D.

_____
Committee Member, Charol Shakeshaft, Ph.D.

_____
Committee Member, Cheryl C. Magill, Ph.D.

_____
Director, Colleen A. Thoma, Ph.D.

_____
Dean, Beverly Warren, Ph.D.

_____
Dr. F. Douglas Boudinot, Dean of the Graduate School

November 23, 2009

AN ANALYSIS OF READING INSTRUCTION FOR FIFTH GRADE STUDENTS WITH
DISABILITIES SERVED IN INCLUSIVE ELEMENTARY CLASSROOMS

A dissertation submitted in partial fulfillment of the requirements for the
degree of Doctor of Philosophy at Virginia Commonwealth University.

by

ELIZABETH D. DRAGONE
Bachelor of Science, Old Dominion University, 1991
Master of Science in Education, Old Dominion University, 1991

Director: Dr. Whitney Sherman.
Associate Professor, School of Education

Virginia Commonwealth University
Richmond, Virginia
November 23, 2009

Acknowledgment

   I would like to acknowledge several people for their unlimited support and encouragement.

First, thank you to my husband, Steve, and my three boys, Joe, Drake, and Jack for their love,

support, and patience while I obsessed over this research. Your flexibility has been amazing. I

would also like to thank my parents, Elizabeth Smith and Richard Drake, and my grandmother,

Alean Fulford, for your unending love and support. I wish that A.O. Smith was here to see me

complete this journey; I know he would be proud.

   Kathy Beasley and Lauran Ziegler, thank you for always being there to motivate me. I am not

sure where we would be in this process without each other. Kim Bausum-Brown, thank you for

your sense of humor about this process, and Carolyn Urban and Karen Akom, thank you for the

countless hours you helped me collect and organize data.

   I am grateful to the teachers who agreed to participate in this study. Your students are

fortunate to have such dedicated educators who are always striving to help them reach their full

potential.

   The support and guidance of my committee members has been greatly appreciated. My

dissertation chair, Dr. Whitney Sherman, provided me with valuable suggestions and a sense of

direction throughout this process. Advice and guidance from Dr. Magill and Dr. Shakeshaft

helped me focus on critical areas and support from Dr. Bosher gave me the confidence to

succeed. I am thankful for their dedication to helping me produce a quality study.

Table of Contents

List of Tables

Abstract

AN ANALYSIS OF READING INSTRUCTION FOR FIFTH GRADE STUDENTS WITH DISABILITIES SERVED IN INCLUSIVE ELEMENTARY CLASSROOMS

By Elizabeth D. Dragone

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2009

Major Director: Dr. Whitney Sherman.
Associate Professor, School of Education

This qualitative case study was designed to identify and analyze instructional strategies used by fifth grade teachers to meet the needs of students with disabilities receiving reading instruction in inclusive settings. Seven participants in a large suburban school system were chosen through purposeful, criterion-based sampling. Semi-structured interviews were used to gain information about how teachers use data related to student readiness, interests, and learning profiles to design differentiated instruction. Observations were used to gain information about how the teachers implemented differentiated content, process, and products in the classroom.

As more students with disabilities are served in inclusive settings, teachers are finding they need to differentiate instruction to meet the varied needs of their students. Previous studies have found that adjusting one of the components of differentiated instruction (readiness levels, interest levels, learning profiles, content, process, or product) to meet individual needs increases the opportunities for students to be successful in the classroom. However, there is limited research on

the impact of combining all of these components into the framework of differentiated instruction on achievement levels. There is also limited research on how teachers actually plan and implement differentiated lessons.

The results of this study indicate that general and special education teachers can work collaboratively to meet the diverse needs of all students in an inclusive classroom. By using data to analyze the readiness levels, interest levels, and learning profiles of all students and planning lessons to address student needs, teachers were able to successfully teach the required curriculum to their students in an inclusive setting. The teachers that demonstrated the greatest amount of differentiated instruction had the strongest collaborative relationships. These were the teachers that described their relationship as a partnership. They analyzed student data and planned lessons together, felt a shared responsibility for all students in the class, and, as a result, provided a supportive learning environment. Administrative support, shared planning time, on-going professional development, and appropriate materials were identified by the teachers as key ingredients for a successful inclusive classrooms.

Chapter 1

INTRODUCTION

The purpose of this chapter is to present a brief overview of the research project. The chapter includes the following sections: (1) summary of the background and history of inclusion; (2) an overview of the components of differentiated instruction; (3) an overview of reading instruction for elementary students; (4) purpose of the study; (5) research questions; (6) summary of methodology; and (7) operational definitions.

Background and History

Inclusion

The movement toward the inclusion of students with disabilities into general education classes has become a nationwide push in education due in part to Federal Laws created over the last 35 years. Section 504 of the Rehabilitation Act of 1973 required "a recipient of federal funds provide for the education of each qualified handicapped person in its jurisdiction with persons who are not handicapped to the maximum extent appropriate to the needs of the handicapped person." This Act defined a handicapped person as someone who has a mental or physical impairment which substantially limits one or more major life activity; has a record of such an impairment; or is regarded as having such an impairment. According to the act, schools were required to place a handicapped child in the regular educational environment unless it was demonstrated by the recipient that the education in the regular environment with the use of

supplementary aides and services could not be achieved satisfactorily (Martin, Martin, & Terman, 1996). Despite this legislation, Congress determined by 1975 that millions of American children with disabilities were still not receiving an appropriate education, finding more than half of the handicapped children in the United States did not receive appropriate educational services which would enable them to have full equality of opportunity. To push schools to provide appropriate services, The Education for All Handicapped Children Act (EAHCA), Sec. 3(b)(3)) Public Law 94-142, was passed. This act allocated federal dollars to states and localities to provide education for children with disabilities. Included in the act were provisions for a free and appropriate education, individualized education programs with parental involvement, establishment of due process proceedings, and to provide an education in the least restrictive environment (Crockett & Kauffman, 1999). EAHCA was renamed the Individuals with Disabilities Education Act (IDEA) in 1990 (P.L. 101-476, 104 Stat. 1142) and was again reauthorized in 1997 as P.L. 105-17. In 2004, the Act was renamed as the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA). The Education for All Handicapped Children Act and subsequent amendments have remained a driving force for the improvement of education of the disabled. Subsequent amendments to the EAHCA have called for higher standards and accountability for students with disabilities to be educated in the least restrictive environment, but the word "inclusion" is not specifically used in the legislation (Martin et al., 1996).

According to these amendments, a child with a disability is one who has been evaluated in accordance with §§300.304 through 300.311 of the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) and has been found to have mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment

(including blindness), a serious emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, an other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services. These services are specially designed to meet the unique needs of the child with the disability and are provided at no cost to the parents. The Act also states "Each State must establish procedures to assure that, to the maximum extent appropriate, children with disabilities ... are educated with children who are not disabled, and that special education, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" (20 U.S.C. 1412(5)(B)).

In addition to the mandate of education in the least restrictive environment, schools must also expose students with disabilities to the general education curriculum so they have the opportunity to pass the state assessments required by the No Child Left behind Act of 2001. This Act, which is the latest version of the Elementary and Secondary Education Act (ESEA), mandates 95% of students within a school (including disadvantaged and students with disabilities) reach state standards in reading and mathematics by 2014. It was enacted "to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach or exceed assessments" (U.S. Department of Education, 2008). This includes participation in assessments used to measure the achievement of all students at the same grade level (Public Law 107-110).

Under NCLB, states are required to reach annual measurable objectives of proficiency in reading and mathematics, participation in testing, graduation rates, and attendance to document they have made Adequate Yearly Progress (AYP). For the 2008-09 school year, the goal for

reading was that at least 77 percent of students overall and in all subgroups had mastered proficiency. In mathematics, 75 percent of the students overall and in all subgroups must have demonstrated proficiency (Virginia Department of Education, 2009). By 2014, 95 percent of all students (including disadvantaged students and students with disabilities) must be proficient in reading in reading and math.

Coupling the AYP requirements with the requirements of IDEIA has proven to be a challenge for teachers. To meet the challenge, many schools are trying to find ways to meet student needs in inclusive settings. Research has shown there are both social and academic benefits for students taught in an inclusive setting (Cole, Waldron, and Majd, 2004; Price, et al., 2001; Rea, McLaughlin, & Walther-Thomas, 2002); however, there are still many barriers to creating inclusive environments in schools.

The U.S. Department of Education reported that as of July 15, 2008 there were 5,912,586 students ages 6-21 served under IDEA, part B in the United States. Of those students, 487,854 were identified as mentally retarded and are not expected to meet state standards. The majority of remaining 5,432,732 students are expected to meet state testing standards in the areas of reading and writing. As more students with disabilities are included in general education classrooms, many teachers are struggling with how to follow prescribed curriculum pacing guides while finding the time to address the needs of students in the class who need additional time and repetition to grasp the concepts. To address the needs of students with disabilities in general education classrooms, some schools are using a framework of differentiated instruction.

Differentiated Instruction

Differentiated instruction is a way of planning that allows for students to work at their individual academic level, at their own pace level, and includes student choice in ways of

displaying their own learning (Norlund, 2003; Tomlinson, 1999). It presents a way to address learner variance, avoids the pitfalls of using a single curriculum for everyone, and incorporates current research into the workings of the human brain (Subban, 2006). A differentiated classroom offers a variety of learning options designed to tap into different readiness levels, interests, and learning profiles. In a differentiated class, the teacher uses (1) a variety of ways for students to explore curriculum content, (2) a variety of sense-making activities or processes through which students can come to understand and "own" information and ideas, and (3) a variety of options through which students can demonstrate or exhibit what they have learned. Instruction is not differentiated when assignments are the same for all learners and the adjustments consist only 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, 1995).

Elements of Differentiated Instruction

Three distinct elements guide differentiated instruction in the classroom: content; process; and product (Tomlinson, 1999, 2001, 2003; Heacox, 2002). Tomlinson's definitions of these elements were used to set operational definitions for this research. The first element, content, is what students need to learn and how the student will get access to the information. The expectation of differentiated instruction is that there is a common goal set for all students who will each have access to the content; however, the information is presented at the student's level and may be presented in a variety of ways. The second element, process, is the activities in which students engage in order to make sense of or master the content. Process begins when students make personal sense of information, ideas, and skills, and are able to grapple with problems using learned information (Broderick, et al., 2005). It is how students make sense of

information and it reflects student learning styles and preferences. Product, the third element of differentiated instruction, are the culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit. Product refers to how students demonstrate their learning in ways that provide challenge, variety, and choice. All products should have clear, challenging, and specified criteria for success, based both on grade level expectation and individual student need (Tomlinson & Eidson, 2003). In addition to content, process, and product, the environment of the classroom can also play an important role in student success. The design of different work areas to meet student needs, posting clear expectations of student behavior, and providing a warm, accepting environment are all positive components to have in a classroom (Tomlinson & Eidson). When planning a differentiated lesson, teachers need to proactively plan what the students will learn, how they will learn it, and how the students will show what they have learned (Tomlinson et al., 2008). The essential learning outcomes remain the same for all students, but individual activities are planned meet the needs of each student so they can master the information (Lawrence-Brown, 2004).

Student readiness levels, learning profiles, and interests all need to be addressed when planning a differentiated lesson. Readiness refers to a student's knowledge, understanding, and skill related to a particular sequence of learning. It is influenced by a student's cognitive proficiency as well as prior learning, life experiences, and attitudes about school. Readiness can vary over time and according to topic and circumstance (Tomlinson, 2003). Research has shown students feel more competent and learn best when tasks presented are too difficult for them to accomplish on their own when they are introduced, but can be accomplished with support from a teacher or a peer (Anderson & Adams, 2001; Hall et al., 2003; Smagorinsky, 1995).

A student's learning profile refers to the preferred mode of learning and can be affected by a number of factors including learning style and intelligence preference (Tomlinson, 2008). Research has shown not all individuals learn in the same way, thus instruction should not be the same for each student (Cronbach & Snow, 1977; Sternberg, Torff, & Grigorenko, 1999; Tomlinson, 2008). Achievement and attitude gains are made when teachers include a variety of instructional methods that address the varied learning styles found in the classroom (Subban, 2006; Dunn & Dunn, 1993). Human brains are "wired" differently. Although normally functioning people use all parts of their brains, each of us is "wired" to be better in some areas than others (Tomlinson, 2008). Students in schools that base instruction on Howard Gardner's Theory of Multiple Intelligences have shown improvements in standardized test scores, student behavior, and increased parent participation (Kornhaber, Fierros, & Veenema, 2004). Applying Sternberg's triarchic theory of intelligences when planning instruction has also proven to have a positive impact on student performance (Sternberg et al., 1998).

Just as student readiness and learning profiles differ, so do student interest levels. The more interesting students find a topic, the more motivated they are to study it. Motivation, which is the set of reasons that determines to what extent a person will engage in a particular behavior, can be affected by elements in the school (Tomlinson, 2003). The materials used, teacher behaviors, the structure of a lesson, and even the overall structure of a course contribute to student motivation. If instruction is not motivating to a student and rewards (either intrinsic or extrinsic, depending on the needs of the student) are not offered, the benefits of the lesson are few. Competence (self-efficacy) is dependent on these motivators (Sternberg, 1998). Modifying instruction to meet student interests results in greater student engagement, higher levels of

intrinsic motivation, and greater student autonomy (Renninger, Hidi, & Krapp, 1991; Tomlinson, 2003). Providing students with an enthusiastic introduction that describes how the

topic is relevant and essential to their life is crucial to peaking student interest (Fulk & Montgomery-Grymes, 1994).

Research on Differentiated Instruction

Most of the research regarding differentiation has been related to teacher performance and perceptions (Johnsen, 2003; McAdamis, 2001; Tomlinson et al., 2008). The process of adjusting instruction to meet learner readiness needs, learning profiles, or interest levels has proven to have a positive impact on student achievement levels (Cronbach & Snow, 1977; Kornhaber et al., 2004; Renninger et al., 1991; Sternberg, 1999; Tomlinson, 2003). Altering the content, process, product, or environment to meet the needs of individual learners has also proven to increase the opportunities for students to be successful in the classroom (Tomlinson, 1999). However, there is limited research on the impact of combining all of these components into the framework of differentiation on achievement levels. One reason for the limited research is that it is difficult to evaluate the effectiveness of differentiation because it does not involve the use of one specific scientifically based strategy; it involves using a variety of techniques all chosen to meet specific student needs (Tomlinson, 2008). NCLB requires the use of instruction that is founded in "scientifically based research." This is research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs as the foundation for many educational programs and for classroom instruction. Due to its broad scope, differentiated instruction does not meet the definition of scientifically based research.

One goal of this research was to examine the practices of teachers who differentiate the content, process, and products required in instruction according to students' readiness levels, interests, and learning profiles. While the findings of this study are not intended to determine if there is a direct correlation between differentiated instruction and increased student achievement, the data does describe how teachers are able to design instruction in a differentiated manner to meet the needs of students with disabilities. To narrow the focus on differentiation strategies used by various teachers, this study examined how reading instruction was designed to meet the needs of fifth graders with disabilities taught in an inclusive setting.

Reading Instruction

All students in grades 3-5, with the exception of students with significant cognitive disabilities, are expected to pass state reading assessments; however, not all students are able to read grade material on their grade level. Students enter school with a variety of exposure to literature. Students who enter school without an exposure to literacy experiences and those who have a learning disability often become "at-risk" for reading failure. Over time, the achievement gap between students who are progressing normally and those who are struggling becomes wider. If this gap is not addressed through instruction designed to meet the individual needs of learners, the students continue to fall farther behind and often fail to meet the expectation levels on state assessments (McGill-Franzen et al., 2006). The challenge is meeting the varied levels of student reading ability within the classroom to ensure improvement for all groups.

Under the Federal initiative Reading First (Title I, Part B, Subpart 1), as authorized by NCLB, district and school reading programs for K-3 students must include instruction, curriculum, and assessment on phonemic awareness, phonics, reading fluency, vocabulary development, and reading comprehension strategies. Teachers in these grades must use research-

based methods to meet the needs of all learners. At the end of third grade, the majority of students are expected to be reading on grade level. At that point, teachers continue to build on previously acquired skills but the focus turns more toward vocabulary development, comprehension strategies, and reading fluency. It is crucial that students with disabilities continue to receive instruction in their areas of weakness while being exposed to grade level material because success in reading requires competence in all areas. However, many teachers are not trained in how to teach struggling students to gain these needed skills and there are few research-based strategies available to provide assistance (Klingner et al., 1999; Moody & Vaughn, 1997; Swanson, 2008). Students with learning disabilities that have been instructed using differentiated instruction have made significant gains in achievement (Katims and Harris, 1997; Swanson, 2008). To increase the opportunities for success, students need to be interested and engaged in the process of learning. Differentiated instruction is one possible method to help students with disabilities make gains in reading achievement.

Purpose of the Study

The purpose of this study was to analyze and identify instructional strategies used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive settings and to answer the following research questions:

1. What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?

2. How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?

3. How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?

Summary of Methodology

Qualitative inquiry was used as an inductive strategy to gather information about the aspects of differentiated instruction that help students with disabilities increase their achievement in reading. This study used a case study design, which is the study of an issue explored in one or more settings, bound by time and place, by detailed, in-depth data collection involving multiple sources of information (Bogdan & Biklen, 2003). According to Yin (2003) a case study design should be considered when: (a) the focus of the study is to answer "how" and/or "why" questions; (b) you cannot manipulate the behavior of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context.

The participants were chosen through purposeful, criterion-based sampling. The criteria for the selection of the sites was that the pass rate on the 2007-08 SOL reading test in 5th grade for students with disabilities was above 88% and the achievement gap on fifth grade reading SOL tests between the pass rates for students with disabilities and students without disabilities was below 10%. The criterion for the teachers was that they taught students with disabilities in an inclusive setting in 2007-08 and in 2008-09. Out of the 38 elementary schools in the county, 11 had less than a ten percent gap in pass rates on the fifth grade Standards of Learning Tests between students with disabilities and students without disabilities. Only seven of the eleven schools had fifth grade general and special education teachers who had taught students with disabilities in an inclusive setting for at least two years. The four schools chosen were located in the region of the county where I was assigned to work.

The schools selected were within nine miles of each other in a suburban education system that serves approximately 58,000 students. In the system, there are 38 elementary schools, the

smallest serving approximately 500 students while the largest serves approximately 900 students. The district chosen is fairly representative in the number of students with special needs of other large school systems in Virginia. In the district, 78% of students with disabilities in fifth grade passed the 2007-08 Reading SOLs compared to 73% at the state level (Virginia Department of Education, 2008).

I was the primary instrument for data collection and analysis. To establish rapport prior to data collection, I visited the classroom and met with each teacher. A pair of observers trained on the operational definitions of content, process, and product observed each class two times to determine how teachers implemented differentiated instruction to meet the needs of students in reading. The Differentiated Instruction Classroom Observation form (Appendix B) guided the data collected during the observations. I then conducted a semi-structured guided interview to determine what data teachers use when planning for differentiated instruction. Field notes were taken during both the observations and interviews and I maintained a journal of impressions, observations, and future questions. These observation methods allowed me to evaluate several types of data to determine if there was agreement in the findings. Analysis was inductive and included patterns, themes, and categories from the collected data.

A unique aspect of this research was similar data will be collected within the next year at the middle and high school levels to facilitate an understanding of how successful specialized instruction is designed and implemented across the grade levels in reading.

Operational Definitions

Content- what the student needs to learn or how the student will get access to the information (Tomlinson, 2000)

Differentiated Instruction- process to approach teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student's

growth and individual success by meeting each student where he or she is, and assisting in the learning process (Hall, 2002).

Disability- with respect to an individual, a disability is a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such impairment; or being regarded as having such an impairment." (P.L. 101-336)

Environment- the way the classroom is adapted to meet the needs of learners; how the room looks and feels (Tomlinson, 2001)

Inclusion- providing students with disabilities equal access to the general education curriculum to the maximum extent appropriate in the general education classroom (Bradley, King-Sears, & Tessier-Switlick, 1997)

Interest/Motivation- the set of reasons that determines to what extent a person will engage in a particular behavior (Tomlinson, 2003).

Learning Profile- refers to the preferred mode of learning that can be affected by a number of factors including learning style and intelligence preference (Tomlinson, 2008)

Process- activities in which the student engages in order to make sense of or master the content; learning activities or strategies may be varied to provide appropriate methods for students to explore the concepts (Tomlinson, 2001)

Product- culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit (Tomlinson, 2000)

Readiness- refers to a student's knowledge, understanding, and skill related to a particular sequence of learning. It is influenced by a student's cognitive proficiency as well as prior learning, life experiences, and attitudes about school (Tomlinson, 2003)

Standards of Learning in Reading- Virginia Public School's expectations for student learning and achievement in grades K-12 in English/Reading (Virginia Department of Education, 2008)

CHAPTER II

REVIEW OF LITERATURE

This review of related literature will provide: (1) the history of the inclusion of students with disabilities in general education classrooms; (2) an overview of the components of differentiation; (3) definitions and research related to student readiness, learning profiles, and student interest, and student; (4) research related to the effectiveness of differentiation; and (5) the components of core reading instruction.

Inclusion

Governmental support of the treatment and education of the disabled has evolved slowly over time, but inclusion is a relatively recent trend (Martin et al., 1996). It was not until states began enforcing compulsory education laws in 1852 that there was an increasing need for special education services. At that time, students who were unable to learn material at the expected rate often did not attend school. As the struggling students were required to enroll, teachers in public schools became aware of the increasing numbers of students who were not learning at the same rate as the majority of the students in a class; therefore, a need developed for special classes and trained teachers to educate the struggling students. Special schools were developed and many of the students with disabilities were taught in isolation from non-disabled peers causing parent frustration.

In the 1954 landmark decision of *Brown v. Board of Education*, the United States Supreme Court determined all children must be afforded an equal educational opportunity. Though this

decision was intended to primarily address the inequality of racially segregated public schools, the decision also impacted parents of disabled students (Valentino, 2006). Many parents of children with disabilities formed groups and pushed Congress to view the decision "separate facilities are inherently unequal" as important in prohibiting segregation on the basis of disability.

The *Brown v. Board of Education* decision influenced future disability legislation. In 1973, Section 504 of the Rehabilitation Act was passed and required that "a recipient of federal funds provide for the education of each qualified handicapped person in its jurisdiction with persons who are not handicapped to the maximum extent appropriate to the needs of the handicapped person." According to the act, schools were required to place a handicapped child in the regular educational environment unless it was demonstrated by the recipient that the education in the regular environment with the use of supplementary aides and services could not be achieved satisfactorily (Martin et al., 1996).

Despite this legislation, by 1975 Congress determined millions of American children with disabilities were still not receiving an appropriate education, finding more than half of the handicapped children in the United States did not receive appropriate educational services, which would enable them to have full equality of opportunity. During this same year, Public Law 94-142, The Education for All Handicapped Children Act (EAHCA), was passed. This act allocated federal dollars to states and localities in order to provide education for children with disabilities. Included in the act were provisions for a free and appropriate education, individualized education programs with parental involvement, establishment of due process proceedings, and to provide an education in the least restrictive environment (Crockett & Kauffman, 1999). EAHCA was renamed the Individuals with Disabilities Education Act (IDEA) in 1990 (P.L. 101-476, 104 Stat.

1142) and mandated educational systems provide "a free appropriate public education" in the "least restrictive setting" for all eligible children with disabilities. This law was again reauthorized in 1997 as P.L. 105-17 and in 2004 the act was renamed as the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA). The Education for All Handicapped Children Act and subsequent amendments have remained a driving force for the improvement of education of the disabled. Subsequent amendments to the EAHCA have called for greater inclusion of students with disabilities, though the word "inclusion" is not specifically used in the Acts (Martin et al., 1996).

A child with a disability is one who has been evaluated in accordance with §§300.304 through 300.311 of the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) and has been found to have mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, an other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services. These services are specially designed to meet the unique needs of the child with the disability and are provided at no cost to the parents. The Act also states "Each State must establish procedures to assure that, to the maximum extent appropriate, children with disabilities ... are educated with children who are not disabled, and that special education, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" (20 U.S.C. 1412(5)(B)).

In addition to the mandate of education in the least restrictive environment, the Elementary and Secondary Education Act (ESEA) requires states to set annual objectives for increasing student achievement with the goal of ensuring that all children have an opportunity to obtain a high-quality education. According to the Virginia Department of Education website (2009), schools, school divisions, and states that meet these objectives make what law refers to as "Adequate Yearly Progress." Requirements of the Act include: annual testing in grades 3-8 and at least once in high school to measure student progress in reading and mathematics and at least once in elementary school, middle school and high school in science; school divisions and states to meet annual objectives for Adequate Yearly Progress (AYP) for student performance on statewide tests in reading and mathematics; the identification of states, schools and school divisions making and not making AYP; and all students to be proficient in reading and mathematics by 2013-2014. For a school, a school division, or the state to make AYP, it must meet or exceed 29 benchmarks for student achievement and participation in statewide testing. Missing a single benchmark may result in a school, a school division or the state not making AYP.

ESEA requires a minimum of 95 percent participation of all students and all subgroups of students in the statewide assessment program at the school, division and state levels. The subgroups include students with disabilities, limited English proficiency students, and students who are economically disadvantaged, white, black, or Hispanic. If participation overall or in one or more subgroups is below 95 percent, a school or school division is not considered to have made AYP regardless of the percentage of students demonstrating proficiency. For a school or school division to have made AYP (based on achievement during 2008-2009) at least 81 percent of students overall and in each subgroup must have demonstrated proficiency in reading and at

least 79 percent of students overall and in each subgroup must have demonstrated proficiency in mathematics. To compensate for expected year-to-year fluctuations in achievement, Virginia uses up to three years of achievement data in calculating AYP (VDOE, 2009).

A student with disabilities is assessed in accordance with his or her Individualized Education Program (IEP). Students with disabilities may take SOL tests (with or without special accommodations), or may be assessed through alternative grade-level tests. Students with significant cognitive disabilities are assessed through an alternate test. ESEA, however, places a one-percent cap on the percentage of test takers in the state who may be counted as proficient based on alternate assessments. Virginia is also allowed to use a proxy percentage to represent the number of students with disabilities who would have met modified grade-level standards in reading and mathematics during 2008-2009 if assessments for these students had been available. The proxy percentage (15 percent for reading and 16 percent for mathematics) is added to the pass rates of students with disabilities for schools and divisions that otherwise would not make AYP solely because of the achievement of disabled students. The proxy is also applied at the state level (VDOE, 2009).

Another way for a school, a school division, or the state to make AYP is through "safe harbor. Safe harbor recognizes improvements in teaching and learning that reduce the failure rate of students in a subgroup by at least 10 percent - even if the annual measurable objective was not met. However, subgroups making AYP through safe harbor must also meet the objective or show improvement on the school or division's other academic indicator(s) (VDOE, 2009).

Coupling these requirements with the requirements of IDEIA has proven to be a challenge to teachers. To meet the challenge, many schools are trying to find ways to meet student needs in inclusive settings. It is important to recognize that inclusion does not fit the widely accepted

definition of mainstreaming utilized in the past. "Mainstreaming" is the integration of children with disabilities with their peers in general education based on individual assessment to provide the least restrictive environment. The time a student spends in the mainstream setting is determined by the Individual Education Plan team and may range from just a few minutes to most of the school day. "Inclusion" goes beyond mainstreaming and implies that most children with disabilities will be educated in the general education classroom for most, if not all, of the school day (Hocutt, 1996). It is not a placement, but a philosophy that every student has the right to be included in all aspects of school. Schools that have a truly inclusive model understand students come from a variety of backgrounds; teachers accept the pupil and adjust the classroom, curriculum, and instructional activities to meet the needs of the student. Advocates for inclusion believe this integrated environment is more realistic than a self-contained setting and promotes a better understanding of the real world (Price et al., 2001).

Cole, Waldron, and Majd (2004) investigated the effects of inclusive school settings for students in six Indiana school corporations. They evaluated how the academic progress in reading and mathematics of students with mild disabilities who are educated in inclusive settings compared to the progress made by students who are educated in traditional resource/pull-out settings. The sample consisted of 429 students identified with mild disabilities in Grades 2 to 5 from 23 elementary schools. Of those students, 235 were served in special education resource settings and 194 of which were served in inclusive settings. Each student was administered the Basic Academic Skills Sample (BASS) in the fall of 1998 and the spring of 1999 to assess academic progress in reading and math during the course of one school year. The results indicated that 43.3% of students with disabilities who were educated in inclusive classrooms made progress comparable to or greater than the progress made by students without disabilities

in math. In comparison, 35.9% of the students with disabilities who were educated in traditional or resource programs made progress comparable to or greater than students without disabilities in math. In reading, 45.9% of students with disabilities educated in inclusive settings and 41.9% of those educated in pull-out resource programs made comparable or greater progress than students without disabilities in math. Rea, McLaughlin, and Walther-Thomas (2002) also investigated the academic impact of instruction in inclusive settings for 8th grade students with learning disabilities compared to instruction in a self-contained setting. The sample of 58 students was pulled from two middle schools in a suburban southeast district. On the Iowa Tests of Basic Skills, students served in the inclusive setting scored higher than students in the pull out setting in language arts and math. Their grades were also significantly higher in all four core academic areas. In addition to academic benefits, the students served in the inclusive settings had significantly less absences.

Despite the growing research that indicates inclusive models are beneficial for many students with disabilities, teachers still have valid concerns about how to meet the needs of each student. Classrooms across the country are filled with students from a variety of backgrounds who have a range of abilities. Meeting the needs of these diverse learners in today's era of accountability is a challenge for teachers. The U.S. Department of Education reports that as of July 15, 2008 there were 5,912,586 students ages 6-21 served under IDEA, part B in the United States. Of those students, 487,854 were identified as mentally retarded and are not expected to meet state standards. The majority of remaining 5,432,732 students are expected to meet state testing standards in the areas of reading and writing. As more students with disabilities are included in general education classrooms, many teachers are struggling with how to follow prescribed curriculum pacing guides when there are students in the class that need additional time and

repetition to grasp the concepts. To address the needs of students with disabilities in general education classrooms, many schools are providing differentiated instruction through a collaborative teaching model in which special education and general education teachers both take responsibility for planning, teaching, and monitoring the success of all learners in a class (Bauwens & Hourcade, 1997).

Differentiated Instruction

Differentiated instruction is a process used to approach teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student's growth and individual success by meeting each student where he or she is and then assist them in the learning process (Hall, 2002). This model of teaching is designed to present a curriculum suitable for all students by focusing instruction on the unique needs of students (Norlund, 2003; Tomlinson, 2003). Differentiated instruction is a way of planning that allows students to work at their individual academic level, at their own pace level, and includes providing students choices on ways to displaying their learning (Tomlinson, 1999). It presents a way to address learner variance, avoids the pitfalls of using a single curriculum for everyone, and incorporates current research into the workings of the human brain (Subban, 2006).

Three distinct elements guide differentiated instruction in the classroom: content; process; and product (Tomlinson, 1999, 2001, 2003; Heacox, 2002). Before instructing students, teachers must be clear about what facts students will be expected to know, what principles they will have to understand, and what they will have to do with the information learned. The first element, content, is what students need to learn or how they will get access to the information. The expectation of differentiated instruction is there is a common objective all students will reach; however, the material may be presented in a variety of in different ways (Tomlinson et al., 2008).

21

Examples of differentiating content include using reading materials at varying readability levels; recording text materials on tape; using spelling or vocabulary lists at readiness levels of students; presenting ideas through a variety of modalities including, auditory and visual means; and 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, 2000).

The second element, process, is the way in which a student engages to gain an understanding of a concept. Process begins when students make personal sense of information, ideas, and skills, and when they are able to grapple with problems using learned information (Broderick et al., 2005). Teachers can assist students with process by supporting the development of relevant, personal connections with problems and texts, and linking them with other known problems and texts. This occurs through the use of tiered activities in which all learners work with the same important understandings and skills, but proceed with different levels of support, challenge, or complexity (Tomlinson, 1999). Flexible groups based upon students' learning style, interests, or readiness can also be used (Corley, 2005; Tomlinson & Eidson, 2003). Providing interesting centers that encourage students to explore subsets of the class topic of particular interest to them; offering manipulatives to those who need them, and varying the length of time a student may take to complete a task in order to provide additional support for a struggling learner or to encourage an advanced learner to pursue a topic in greater depth are just several additional ways the process element can be differentiated.

Product, the third element of differentiated instruction, refers to how students demonstrate their learning. Tomlinson (2000) defines products as culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit. It is important to provide students a range of options for demonstrating what they know and can do (Hall et al., 2003;

Tomlinson et al., 2008). Throughout the process, teachers should assess student progress to determine growth and to determine how to adapt instruction to fit the needs of the student. Homework and class work should provide an opportunity for encouragement and positive feedback, not grading. Grading should be held to the end to determine mastery (Tomlinson et al., 2008). Products should have clear, challenging, and specified criteria for success, based both on grade level expectation and individual student need (Tomlinson & Eidson, 2003). Students should be encouraged to create their own product assignments that meet the required elements as defined in an assessment rubric. Products may include making a poster, writing a report, making an oral presentation, enacting a dramatic response, creating and singing a song or poem, drawing, or working collaboratively. Teachers need to make sure though that students with reading and writing problems do not miss opportunities for learning by always choosing favorite formats (Broderick et al., 2005).

In addition to content, process, and product, the environment of the classroom can also play an important role in student success (Tomlinson & Eidson, 2003). Examples of differentiating the learning environment can include: making sure there are places in the room to work quietly and without distraction, as well as places that invite student collaboration; providing materials that reflect a variety of cultures and home settings; setting out clear guidelines for independent work that matches individual needs; developing routines that allow students to get help when teachers are busy with other students and cannot help them immediately; and helping students understand that some learners need to move around to learn, while others do better sitting quietly (Tomlinson, 1999, 2001).

When planning a differentiated lesson, teachers need to proactively plan what the students will learn, how they will learn it, and how the students will show what they have learned

(Tomlinson et al., 2008). The essential learning outcomes remain the same for all students, but individual activities are planned to meet the needs of each student so they can master the information (Laurence-Brown, 2004). Student readiness levels, learning profiles, and interests all need to be addressed when planning a differentiated lesson.

Readiness Levels

Readiness refers to a student's knowledge, understanding, and skill related to a particular sequence of learning. It is influenced by a student's cognitive proficiency as well as prior learning, life experiences, and attitudes about school. Readiness can vary widely over time, and according to topic and circumstance (Tomlinson, 2003). Students come to school with a variety of background experiences. Teachers need to assess if students have the basic skills needed to understand the information. Remediation opportunities should be incorporated in planning for students who have weak foundational skills and enrichment opportunities should be incorporated for students who demonstrate a clear mastery of the needed skills and need to be challenged to keep learning. Tiered activities are one way to address readiness effectively. It also can be addressed through small group sessions, individualized instruction, peer support, or coaching. Peer interaction, scaffolding, and modeling are also important ways to facilitate individual cognitive growth and knowledge acquisition (Tomlinson, 2003). Spiraling a curriculum builds on the prior knowledge of the learner to help form a strong conceptual understanding of the information presented (Sticht & James, 1984; Bruner, 1966). The goal is growth for every student, it just may not the same amount for each one (Tomlinson et al. 2008).

In a study of 76 five year olds, Anderson and Adams (2001) compared scores on the Woodcock Johnson Psycho-Educational Battery and the Pictorial Scale of Perceived Competence and Acceptance for Young Children and found the academic readiness of the

students was related to their perceptions of competence. These results, though they may not be generalizable to all five year olds, suggest it is important students are taught according to their readiness level to increase feelings of competence. Research has also shown students learn best when tasks closely match their skills and understanding of a topic. Vygotsky (as referenced in Smagorinsky, 1995) theorized there is a gap between what students can do independently and what they can do with support. To promote success, teachers should give a child a task that is too difficult for him to accomplish on his own, but that is within reach with support from a teacher or a peer (Hall et al., 2003). Differentiation allows teachers to provide instruction to students within this range of proximal development. In support of Vygotsky's Zone of Proximal Development theory, Fisher et al. (1980, in Hall et al., 2003) found that in classrooms where individuals were performing at a level of about 80% accuracy, students learned more and felt better about themselves and the subject area being studied.

Readiness can be determined using informal or formal methods (Tomlinson et al., 2008). Formal information can be found on previous report cards, standardized test score reports, and by using pre-test results. Informal assessments can include pre-assessment activities such as asking students to define key terms or filling in a chart on key concepts related to a topic prior to instruction. The results of these assessments should be used to determine what the expectation of each student will be throughout the unit. Students can be placed in flexible groups to address particular needs, with the understanding that these groups will change depending on the time it takes students to grasp a concept. Groups should never be designated as high or low; they should only be based on student need at a particular time (Tomlinson et al., 2008).

Learning Profiles

  A student's learning profile refers to the preferred mode of learning of the student. It can be affected by a number of factors including learning style and intelligence preference (Tomlinson et al., 2008). Research has shown individuals do not all learn in the same way, so instruction should not be the same for each student (Sternberg & Grigorendo, 1998; Tomlinson, et al., 2008). Achievement and attitude gains are made when teachers include a variety of instructional methods that address the varied learning styles found in the classroom (Subban, 2006; Dunn & Dunn, 1993). Human brains are "wired" differently and although normally functioning people use all parts of their brains, each of us is "wired" to be better in some areas than others (Tomlinson et al., 2008).

  Cronbach and Snow (1977) theorized that the effectiveness of instructional strategies is dependent on an individual's specific abilities. According to their research, teachers need to find the aptitude-treatment interaction that meets the needs of each learner. They found that instruction should be matched to the aptitudes of the learner. An aptitude, as defined by Snow (1991), is "any personal characteristic, such as intelligence or differential abilities, which would have an impact on the learning experienced by the person. It includes personality and motivational differences along with styles, attitudes, and beliefs." Treatment is defined as the variable(s) that make up the learning environment, specifically covering any manipulable variable. For example, treatments can include variations in the style of instruction, delivery method, pace of delivery, and can include environmental elements that are not easily manipulated such as the characteristics of the teacher or characteristics of the environment in which the treatment is delivered. An interaction is present when a situation has one effect on one kind of person and a different effect on another. The goal of instruction, according to Cronbach

and Snow, is to try to design enough treatments so that everyone will be able to succeed in one of them. Instruction that enables students to capitalize on strengths is likely to motivate them more than instruction that does not allow such capitalization (Sternberg & Grigorenko, 2004).

Gardner proposed there are seven primary forms of multiple intelligences (MI): linguistic, musical, logical-mathematical, spatial, body-kinesthetic, intrapersonal, and interpersonal. When he proposed them, he did not imply that teachers should use his theory to improve student achievement. As he stated in a 1999 interview with Keenan Wellar, "There isn't a single MI approach. Basically, the idea is if you value the differences among students and take them very seriously, that should have implications for how you present material. That's the only absolute implication from the theory." Mindy Kornhaber investigated 41 schools that were using multiple intelligences as a guiding theory to determine what practices educators employed to make the theory useful and to determine if there were any benefits. The Project on Schools Using MI Theory (SUMIT) was a 3.5-year study developed to explore such issues (Kornhaber, Fierros, & Veenema, 2004). In this study, telephone interviews were conducted with the principals (or other school leaders) of 41 diverse schools in 18 states and one Canadian province. Data was collected through interviews with teachers, classroom observations, and a review of student work at 10 of the schools that had received an award for excellence. Coded transcripts revealed that the schools reported positive associations between MI and four outcomes: nearly 80% of the schools reported improvements in standardized test scores, of which nearly half of the schools associated the improvement with MI; 80% reported improvements in student behavior, with slightly more than half associating this improvement with MI; 80% reported increased parent participation, with 60% associating the increase with the school's adoption of MI and 80% reported a range of improvements for students with learning disabilities (e.g., improved learning, improved

27

motivation, effort or social adjustment), with all but one of the schools associating this improvement with MI.

Keeping in line with the idea that people have different types of intelligence, Sternberg (1998) proposed there are three aspects of intelligence: analytical, creative, and practical. Analytical intelligence, often referred to as "school smart" involves analyzing, judging, evaluating, comparing and contrasting, and critiquing. Creative intelligence involves the ability to apply knowledge to new situations in an imaginative way by creating, inventing, discovering, imagining, and supposing. Practical intelligence is adapting learned information to real life through involve implementing, using, applying, and seeking relevance. According to Sternberg, these intelligences should be taught "triarchically" so that students have the opportunity to apply what they learn in their environment and will motivate them to be successful with their applications of knowledge. Sternberg, Torff, and Grigorenko (1998) stated that encoding the information in three different ways teaches students to think to learn and simultaneously learn to think. This combination of instruction methods allows students to capitalize on their strengths while compensating for their weaknesses, a key aspect of triarchic instruction. In a 1993 study, Sternberg used multiple choice and essay tests to assess the intelligence types of 199 high school participants at the Yale Summer Psychology Program. Students were divided into five categories: high analytical, high creative, high balanced, high in all three areas, or low in all three areas based upon their test results. They were all give similar instruction in the morning, but in the afternoon each group was given instruction that either did or did not match their intelligence type. Assessments results on assignments, tests, and essays, found that students who were matched or partially matched to their learning pattern performed significantly higher than those who were not matched (Sternberg, 1996).

Student style information is often obtained is by having students fill out self-inventory questionnaires. As a caution, Melis and Monthienvichienchai (2004) and Tomlinson, et al., (2008) warn about the validity of using these inventories to plan instruction. Learning style theories do not provide a clear methodology for reliably deriving the appropriate pedagogic strategies even if a learner's profile could be obtained with reliability and certainty. People may change over time in their preferences and a variety of instructional plans is recommended. However, Melis and Monthienvichienchai do state that discussing learning styles and trying to accommodate student preferences strengthens the communication between student and teacher, encouraging the student to reflect on his/her own learning experience and actively seek different ways to process information. Data collected by the teacher over time can demonstrate if the child truly performs better when information is presented and assessed using specific styles.

Student Interest

Just as student readiness and learning profiles differ, so do student interest levels. The more interesting students find a topic, the more motivated they are to engage in the learning process. Motivation, which is the set of reasons that determines to what extent a person will engage in a particular behavior, can be affected by elements in the school (Tomlinson, 2003). The materials used, teacher behaviors, the structure of a lesson, and even the overall structure of a course all contribute to student motivation. If instruction is not motivating to a student and rewards (either intrinsic or extrinsic, depending on the needs of the student) are not offered, the benefits of the lesson are few. Competence (self-efficacy) is dependent on these motivators (Sternberg, 1998).

According to Keller (1987) there are four components needed for promoting and sustaining motivation in the learning process: attention; relevance; confidence; and satisfaction (ARCS). The ARCS Model of Motivational Design is based primarily on the expectancy-value theory of

Vroom in which effort is the major motivational outcome. The assumption of this model is that effort will not be put forth unless the student values the task and believes they can succeed at the task. Keller encourages teachers to use attention strategies to arouse and sustain curiosity and interest; relevance strategies that link to learners' needs, interests, and motives; confidence strategies that help students develop a positive expectation for successful achievement; and satisfaction strategies that provide extrinsic and intrinsic reinforcement for effort. Renninger, Hidi, and Krapp (1991) conducted a meta-analysis of research on interest achievement relationships from 1965-1990. Sixteen studies were included that contained 121 independent random samples from 18 different countries. The sample sizes ranges from 49 participants to 15,719 in fifth through twelfth grade. Their results found that interest had a more significant effect on the achievement of males than females. They also found that as puberty approaches, there is a significant increase in the relationship between interest and achievement.

Sternberg (1998) found that people who are high in achievement motivation seek moderate challenges and risks. When the challenge is just about manageable and goals are clear, a person becomes focused and engaged. One way to incorporate these elements into planning is to use the component display theory which classifies learning along two dimensions: content and performance (Merrill, 1983). According to this theory, students learn best when they are in control of their learning and can select their own instructional strategies according to their learning preferences and styles. Student motivation increases when students can work with topics that are of personal interests. Modifying instruction to meet student interest levels results in greater student engagement, higher levels of intrinsic motivation, and greater student autonomy (Tomlinson, 2003). Providing students with an enthusiastic introduction that

describes how the topic is relevant and essential to their life is crucial to peaking student interest (Fulk & Montgomery-Grymes, 1994).

Research on Differentiation

The process of adjusting instruction to meet learner readiness needs, learning profiles, or interest levels has been proven to have a positive impact on student achievement levels (Sternberg, 1998; Tomlinson et al., 2008). Altering content, process, product, and environment has also helped students be successful in the classroom (Tomlinson, 2003). However, research has been limited on the impact of combining all of these components into the framework of differentiation on achievement levels. Most of the research regarding differentiation has been related to teacher performance and perceptions. Johnsen (2003) conducted a study of undergraduate teachers who were differentiating instruction to meet varying levels of student ability and found teachers thought the use of differentiation was rewarding. In another study, McAdamis (2001) found that teachers in the Rockwood School District in Missouri who received training on differentiated techniques over a five year period and implemented the process in their classes reported there were benefits to the students including increased motivation and enthusiasm for learning. This study found that support structures and the cooperation of all teachers are essential to success. While these studies did indicate teachers found the practice of differentiation to be beneficial, there was no statistical evidence presented that indicates implementing a framework of differentiation positively impacts student achievement.

One reason evaluating the effectiveness is difficult is that it does not involve the use of one specific scientifically based strategy; it involves using a variety of techniques all chosen to meet specific student needs (Tomlinson et al., 2008). NCLB calls for the use of "scientifically based

research" as the foundation for many educational programs and for classroom instruction. This means research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs. It includes research that employs systematic, empirical methods that draw on observation or experiment, involves rigorous data analyses, relies on measurements or observational methods that provide reliable and valid data across evaluators and observers, is evaluated using experimental or quasi-experimental designs, ensures that experimental studies are presented in sufficient detail and clarity to allow for replication or, at a minimum, offer the opportunity to build systematically on their findings; and has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review [sec. 9101(37) of the Elementary and Secondary Education Act (ESEA)].

To narrow the focus on differentiation strategies used by teachers, this study will examine how differentiated instruction is implemented by collaborative teachers in reading instruction for fifth graders with disabilities taught in an inclusive setting. For the purpose of this study, collaborative teams are defined as special education teachers working together to both take responsibility for planning, teaching, and monitoring the success of all learners in a class (Bauwens & Hourcade, 1997).

Reading Instruction

All students in Virginia in grades 3-5, with the exception of students with significant cognitive disabilities, are expected to pass state reading assessments; however, not all students are able to read grade level material. Students enter school with a variety of exposure to literature. Students who enter school without an exposure to literacy experiences and those who have a learning disability often become "at-risk" for reading failure. Over time, the achievement

gap between students who are progressing normally and those who are struggling becomes wider. If this gap is not addressed through instruction designed to meet the individual needs of learners, the students continue to fall farther behind and often fail to meet the expectation levels on state assessments (McGill-Franzen et al, 2006). The challenge is meeting the varied levels of student reading ability within the classroom to ensure improvement for all groups.

Under the Federal initiative Reading First (Title I, Part B, Subpart 1), as authorized by NCLB, district and school reading programs for K-3 students must include instruction, curriculum, and assessment on phonemic awareness (the knowledge and manipulation of sounds in spoken words); phonics (the relationship between written and spoken letters and sounds); reading fluency, including oral reading skills (the ability to read with accuracy, and with appropriate rate, expression, and phrasing); vocabulary development (the knowledge of words, their definitions, and context); and reading comprehension strategies (the understanding of meaning in text). Teachers in these grades must use research-based methods to meet the needs of all learners. At the end of third grade, the majority of students are expected to be reading on grade level. In fourth grade teachers continue to build on previously acquired skills but the focus turns more toward vocabulary development, comprehension strategies, and reading fluency. In the majority of curricula, phonemic awareness and phonics, which are required for successful decoding, are no longer taught as a part of direct instruction after third grade.

It is crucial that students with disabilities continue to receive instruction in their areas of weakness while being exposed to grade level material because success in reading requires competence in all areas. However, many teachers have not been trained to teach struggling students the needed foundational skills and there are few research-based strategies available to provide assistance (Klingner et al., 1999). Katims and Harris (1997) investigated the

effectiveness of using differentiated comprehension enhancement strategies within the context of general education reading classes for half of the sample of 207 students, 25 of which had with a learning disability. According to the results, students who were taught using a differentiated instruction model gained 17.0% in reading achievement scores, compared to a gain of 3.5% for students who received direct instruction without differentiation.

Swanson (2008) conducted a comprehensive search of literature to determine what components of effective instruction have been documented during reading instruction for students with disabilities. The results indicated that students with learning disabilities spent little time engaged in phonemic awareness, phonics, reading fluency, comprehension, and vocabulary instruction. The results also found that the majority of small reading groups exceeded the National Reading Panel's recommendation of six or fewer students and that students spent little time engaged in the actual task of reading. Moody and Vaughn (1997) found general education teachers felt constrained by the demands of the district and school administration and have more difficulty grouping students according to their ability in the various areas of reading instruction. These teachers tended to do most instruction as a large group due to lack of time and exposure to training on how to tailor instruction to a variety of needs by different groups. Special Education teachers on the other hand reported they had more autonomy in making grouping decisions based on student needs, but few of them felt they had received the training needed to effectively help students remediate deficits. To maximize the potential for success, students need to be interested and engaged in the process of learning. Learning to read is never ending process; reading instruction should also be a never ending process (Hall et al., 2003).

Overview of Methodology

The purpose of this study was to analyze and identify successful instructional strategies used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive settings. A purposeful criterion based sample of four collaborative teams at four sites was selected. These schools served the majority of their students with learning disabilities in general education settings and had less than a 10% achievement gap between students with disabilities and students without disabilities during the 2007-08 school year. Their fifth grade students also had a pass rate of at least 88% on the reading SOL tests. The teachers received training on how to use data to drive instruction and how to differentiate instruction to meet individual student needs. The goal was to share the information gained about how teachers successfully differentiate instruction with teachers that are struggling to meet the needs of their students with disabilities. The following three questions were used to drive this study:

1. What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading

2. How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?

3. How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to analyze and identify successful instructional strategies used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive settings. The goal was to answer the following questions:

1. What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?

2. How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?

3. How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?

This chapter includes pertinent information regarding the research design, population and sample, instrumentation, and procedures for data collection and analysis. Information regarding the Institutional Review Board process, potential limitations of this study, and a chapter summary are also included.

Research Design

In a qualitative study, the research questions often start with "how" or "what". The goal of this research was to answer questions related to the "what" and "how" of differentiated instruction; therefore, a qualitative approach was used. Qualitative research is naturalistic, draws

on multiple methods that respect the humanity of participants, focuses on the context, is emergent and evolving, and is fundamentally interpretive (Rossmand & Rallis, 2003). It is also an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and is conducted in a natural setting (Cresswell, 1994, p. 2).

There are six commonly used qualitative approaches: ethnography, grounded theory, case studies, narrative, phenomenological, and action research (Padgett, 2008). This study used a multi-site case study design, which is the study of an issue explored in one or more settings, bound by time and place, by detailed, in-depth data collection involving multiple sources of information (Bogdan & Biklen, 2003). According to Yin (2003) a case study design should be considered when: (a) the focus of the study is to answer "how" and/or "why" questions; (b) you cannot manipulate the behavior of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context. Factors a, b, and c were all applicable to this research.

Population and Sample

Sample and Site Selection

In a case study, the researcher must consider whether to study a single case or multiple cases. The study of more than one case dilutes the overall analysis; the more cases an individual studies, the greater the lack of depth in any single case. According to Creswell (1994), researchers typically choose no more than four cases. Therefore, four sites were chosen for this study.

The participants for this study were chosen through purposeful, criterion-based sampling. Purposive sampling provides researchers with confidence they have portrayed the many individual and group realities which exist in a given setting (Patton, 1990). Since the purpose of a qualitative study of this type is not often generalizable, it was not necessary to randomly select participants. It was more important to use criterion based sampling since the participants were "likely to be knowledgeable and informative about the phenomena the research is investigating" (McMillan & Schumacher, 1989, p. 182).

Information regarding the pass rates of students with disabilities and without disabilities on the 2007-08 Reading SOL tests was gathered from the Virginia Department of Education website. The pass rates for students with disabilities in all elementary schools ranged from 50-100% and the achievement gap between students with disabilities and those without disabilities ranged from -3% to 50% percent. After analyzing natural breaks in the data, the criteria set for the selection of the sites was that the pass rate on the 2007-08 SOL reading tests in 5th grade for students with disabilities taught by a collaborative team was above 88% and the achievement gap on fifth grade reading SOL tests between the pass rates for students with disabilities and students without disabilities was less than ten percent (Table 1).

Table 1.

Pass rates for 2007-2008 Grade 5 English Reading SOL

	Site 1	Site 2	Site 3	Site 4	Division	State
Students without disabilities	97%	99%	100%	97%	96%	92%
Students with disabilities	88%	91%	93%	93%	78%	73%
Achievement gap	9%	8%	7%	4%	18%	19%

*The participation rate at each school for students with disabilities was 100%

In addition to being purposeful and criterion-based, the sample was also one of convenience. Out of the 38 elementary schools in the county, 11 had less than a ten percent gap in pass rates on the fifth grade Standards of Learning Tests between students with disabilities and students without disabilities. Seven had the same teachers teaching students with disabilities in the inclusive setting in both 2007-08 and 2008-09. The four schools chosen from the seven that qualified were located in the region of the county where I was assigned to work. The advantages of choosing a site that I was familiar with included relatively easy access to participants; the availability of a feasible location for research; the potential to build trusting relationships; and background knowledge of the instructional standards in the locality (Marshall & Rossman, 2006). The disadvantages included the fact that the sample was not random, the teachers may have felt obligated to participate in the study due to their relationship with me, and the fact the research may have been biased regarding results based on prior knowledge of teacher abilities.

The schools selected were within nine miles of each other in a suburban education system that serves approximately 58,000 students. In the district there are 38 elementary schools, the smallest serving approximately 500 students, while the largest serves approximately 900 students. The district chosen was fairly representative in the number of students with special needs of other large school systems in Virginia. In the district, 78% of students with disabilities in fifth grade passed the 2008 Reading SOLs compared to 73% of all fifth grade students with disabilities in Virginia (VDOE, 2008).

The population for this study was public elementary school fifth grade general and special education collaborative teachers who teach reading in an inclusive setting. For the purpose of this study, collaborative teams were defined as teachers working together to take shared responsibility for planning, teaching, and monitoring the success of all learners in a class

(Bauwens & Hourcade, 1997). The teachers chosen to participate from the selected schools were recommended by administrators as teachers who plan together and teach together using differentiated instruction in an effective way that promotes student success in reading. The students with disabilities in these classrooms were students with either a learning disability, an emotional disability, or an other health impairment. A total of four collaborative teams, one from each of the selected schools, were asked to participate in the study.

Four teams originally agreed to participate and allow observations in a collaborative setting, but by the time the observations were scheduled one site had determined the best way to meet the needs of five of the students with disabilities was to provide specialized reading instruction for a portion of the reading block in a pull-out setting. I determined it was appropriate to keep the teachers at this site as participants because the teachers continued to plan collaboratively and they stated that the specialized pull-out services were truly differentiated to meet the needs of the students. Following the observations, only the special education teacher at this site agreed to be interviewed due to time constraints. Since observations had been completed at the site and examples of differentiation were noted, I determined it was appropriate to interview the special education teacher even though the general education teacher did not participate. Each site was assigned a random number between one and four to ensure confidentiality.

Instrumentation

Researcher Role

Qualitative researchers are concerned primarily with process, rather than outcomes or product, and are interested in meaning (how people make sense of their lives, experiences, and their structures of the world). The qualitative researcher is the primary instrument for data collection and analysis (Merriam, 1988; Maxwell, 2005). Data are mediated through this human

instrument, rather than through inventories, questionnaires, or machines. The researcher's eyes and ears are the tools used in a qualitative study to make sense of what is going on (Maxwell). For this study, I was the instrument for data collection. I collected field notes during the observations and interviews, typed and transcribed all of the interviews, and built abstractions, concepts, hypotheses, and theories from collected data.

According to Maxwell (2005), the relationships the researcher establishes can facilitate or hinder other components of research design. To form trust and strengthen relationships, I met with each teacher and visited the classroom to establish rapport prior to data collection.

Procedures for Data Collection

A strength of case study research is the use of multiple data sources which facilitates a holistic understanding of the phenomenon being studied (Baxter & Jack, 2008). There are at least six sources of evidence that can be used in a case study: documents; archival records; interviews; direct observation; participant-observation; and physical artifacts (Yin, 1994). For this study, interviews with teachers, direct observations of the instructional behaviors demonstrated by teachers, and field notes were used to collect data. Using multiple types of data allowed me to determine if there was agreement in the findings.

An extensive review of literature was conducted to build a thorough knowledge base on the topic, to establish the problem or framework of the study, to prove how the study would contribute to the professional community, to lay the ground work for the study methodology, and to become the basis to compare and contrast the findings of the research study (Creswell, 2003, p. 30; Merriam, 2000, p. 32; Hart, 1998, p. 27). A search was conducted on the Virginia Commonwealth University (VCU) library database with key words that included differentiated instruction, inclusion, history of disability laws, collaborative teaching, and reading instruction

for elementary students. The bibliographies of the references that resulted from this search led to further sources of information.

Once possible sites for the study were identified using the data from VDOE, administrators were asked if their collaborative teams were indeed collaborating effectively and if the study could occur in their building. All of the administrators stated their teachers were demonstrating effective collaboration and differentiation and gave their permission for the research to occur.

Institutional Review Board

Following the approval of the proposal by the committee at VCU, permission for this study under Exempt Category 1 review was requested from the Institutional Review Board at VCU and the IRB approval board in the school district. This category was selected because it applies to research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. Once IRB approval was gained, eight teachers (one general and one special education teacher from each of the four schools) were invited to participate in the study. The teachers were informed that their administrators had given permission for them to participate and they were given the Research Subject Information and Consent Form (Appendix A). This form informed participants of the purpose of the study, the potential risks and benefits of participation, alternatives to participation in research, an assurance of the confidentiality of responses, the right not to answer interview questions and the right to withdraw participation, and contact information for me and sponsor of the study as well as the Virginia Commonwealth University Institutional Review Board. The signed consent forms were kept on file. Seven teachers agreed to participate.

Pilot

A pilot study using the Differentiated Instruction Classroom Observation form was conducted in one of the eleven schools in the district that met the criteria but was not chosen for this study. This instrument was created with Carol Tomlinson by Strategic Research, LLC as part of a program evaluation contracted by the Richland 2 School District in Columbia, South Carolina, and was used with permission. The term "pilot study" can refer to small scale versions of the study done in preparation for the major study, or it can be the pre-testing or 'trying out' of a particular research instrument. One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. Conducting a pilot study does not guarantee success of a study, but it does increase the likelihood of success (Teijlingen & Hundley, 2001).

During the pilot test, I trained two additional observers on the operational definitions of content, process, and product to be utilized for this study. The observers also reviewed the Differentiated Instruction Classroom Observation Form (Appendix B) prior to observing. Observations were conducted in two classrooms at a site that met the criteria but was not selected to participate in the study. When reviewing the observation forms, I found there was only an 80% agreement in ratings in all 13 areas. Based on feedback from observers and from my dissertation chair, several sections of the form were deleted to narrow the focus of the observations. The sections deleted were those that required observers to make decisions about the quality of the curriculum, context/goal setting, student assessment, attention to individuals/building community, positive/supportive learning environment, and quality curriculum. Though all of the information in these sections was applicable to evaluating the

43

overall classroom environment, they were either too difficult to rate based on one observation with limited background knowledge or they did not ask for information that was directly related to the research questions.

Following the pilot observations, the observers set operational definitions for ratings of *Strong*, *Some*, and *None* based on the suggested uses of the observation guide by Carol Ann Tomilinson. *Strong* was used as a rating when more than five instances of an element were observed; *Some* was used when one to five instances of an element were observed; and *None* was used as a rating when there was no evidence of the element. The modified form and rating definitions were then used in an additional observation. Observer feedback from the second form was positive and the inter-observer agreement in the rating categories increased to 95%.

A pilot interview was also conducted with the observers acting as a teacher team and with one of the teams from the pilot observations. The Interview Guide (Appendix C) was used to structure the interviews. These pilot interviews allowed me to practice using the digital recorder and to rehearse how to open the conversation and phrase questions. I was also able to determine which questions required more prompting for detailed responses and how to transition from one question to the next.

Suggestions from the participants after the pilot interview included providing the participants with the questions several days prior to the interview so they could have time to process responses. They also recommended I allow them more time for responses prior to asking subsequent questions and noted that the information requested was repeated in several questions. It was agreed that the questions did not need to be changed because though they were similar, each set was related to a different component of differentiated instruction; however, it was determined that the opening conversation should include a statement regarding the fact that

44

different components would be discussed using questions that were very similar and although information may be repeated it would be valuable to relate it to each component.

Observations

To determine how teachers differentiated instruction for students, observations were conducted to collect data on how teachers provide instruction to fifth grade students with disabilities in reading. The observations were conducted by two paired observers trained on the definitions and examples of content, process, and product. Three observers were used in this project and always consisted of myself and one of the other two observers. Each observer was given the modified Differentiated Instruction Classroom Observation Form (Appendix B) to guide her observations. Two observations lasting at least 90 minutes were conducted at Site 1 and Site 4. At Site 2, one observation lasting 90 minutes and a second observation lasting 30 minutes were conducted. Both observations at Site 3 were 60 minutes in duration.

Field notes, which are detailed, non-judgmental, concrete descriptions of what was observed (Marshall & Rossman, 2006), were taken by each observer. Memoing, which is the process for recording the thoughts and ideas of the researcher as they evolve throughout the study (Trochim, 2006), was used in these field notes. To capture overall impressions of the observations and to note any questions or concerns that may require clarification during the interviews, a running narrative was made in a journal immediately following observations All references to the general education teachers were recorded as GE and all references to special education teachers were recorded as SE. No teacher names appeared on the observation forms or in written notes.

The Differentiated Instruction Classroom Observation Form (Appendix B) was filled out by each observer at the end of each observation using the field notes when necessary to count the frequency of an occurrence so that the observer could rate *Strong*, *Some*, or *None* in each

45

category. Observation records were assigned a number that incorporated the site number and the observation number. The written notes taken by each observer were typed and combined into a Word document. Reading and transcribing the notes allowed me\ to think analytically about the data and to formulate broader themes.

Interviews

A total of five semi-structured interviews were conducted over a span of two weeks at a time during the school day most convenient for the participants using the questions outlined in Appendix C. These interviews were used to determine how fifth grade teachers used data to individualize instruction to meet the readiness levels, interest levels, and learning profiles of students with disabilities during reading instruction. According to Patton (2002), there are three variations of collecting data through an interview: information conversations; general interview guide approach; and standardized open-ended interview. The general interview guide approach was used for this study because it allowed me flexibility to explore related topics while covering the core concepts.

Each interview began with a casual conversation and a statement of appreciation for participating in the study. Participants were reminded they had a right not to participate and could end the interview at any time. I asked permission to tape the interviews and assured the participants that the tapes would be kept confidential and their names would not be used in any of the research. All participants who were interviewed gave permission for the session to be taped. I did take notes during the interviews, but my main role was to listen because that is the most important skill in interviewing (Seidman, 2006). One interviewee did share important information once the tape recorder was turned off and I took notes regarding her statements.

At Sites 1 and 4 the interviews were conducted with both the general and special education teacher in attendance. At Site 3 only the special education teacher agreed to participate in the study so the interview was conducted with just one teacher. At the final school, Site 2, the special education teacher and the general education teacher were interviewed separately due to scheduling conflicts.

All interviews were conducted using the Interview Guide in Appendix C. The semi-structured interview questions were open-ended to allow for detailed responses. When necessary, probes were given to gather as many details as possible. Patton (1990) identified three types of probes: detail-oriented, elaboration, and clarification probes. Detail-oriented probes are designed to fill out the picture of whatever it is the researcher is trying to understand and tend to begin with who, what, when, where, and how. Elaboration probes are designed to encourage the interviewee to give more detail. These probes can be nonverbal, such as the researcher nodding his head or can involve asking the interviewee to keep talking and asking for examples or more details. The third types, clarification probes, are used when the interviewer is unsure of what the interviewee is talking about. The majority of the probes used in this study were detail-oriented or elaboration. Since observations had been completed in the classrooms prior to the interviews, I was able to ask questions about what was observed and was able to ask teachers to give specific examples to prompt teachers to elaborate on their responses.

All interviews were taped on a digital recorder to allow me to refer to the recordings to check for accuracy and context of statements. According to Seidman (2006), tape-recording offers many benefits including preserving the words of the participants so that researchers have their original recording to check for accuracy and provide accountability of data. Tape-recordings also provide participants with a confidence that their words will be treated responsibly.

In order to facilitate active listening, brief working notes were taken so I could concentrate on what the participant said. These notes helped me reduce interruptions and keep track of statements that the participants mentioned in order to come back to these subjects when the timing was right (Seidman, 2006). At the conclusion of each interview, participants were asked to review the interviewer's working notes for accuracy. They were also given the opportunity to add information or request specific information not be used as data. All participants gave me permission to contact them if follow-up questions or clarification were needed. Only one team needed to be contacted for clarification regarding how often the teachers planned together.

Data Analysis and Preparation

To produce an analysis of the highest quality, Yin (1994) recommended researchers show their analysis relied on all the relevant evidence, included all major rival interpretations in the analysis, addressed the most significant aspect of the case study, and used the researcher's prior, expert knowledge to further the analysis. The first step in analyzing qualitative data is to become extremely familiar with the data (Morse & Field, 1995). Miles and Huberman (1994) proposed breaking qualitative analysis into the following steps: (1). data reduction, which involves selecting, focusing, condensing, and transforming data; (2). data display, which involves creating an organized, compressed way of arranging coded data that are connected in some way; and (3). conclusion drawing and verification, which involves revisiting the data many times to verify, test, or confirm identified themes and patterns.

To become familiar with and to comprehend the data, I typed the observation notes and memos from both observers at each site. Duplicate observation notes were condensed into one Word document. I then transcribed the interviews verbatim and read the notes from each observation and the transcripts from the interviews several times to become very familiar with

the data collected. A peer reviewer listened to two of the interviews to verify that the transcript matched the recording. A copy of these typed notes and transcriptions were kept in a protected file so that the original information could be used as a reference.

A conventional way of presenting and analyzing interview data is to organize excerpts from the transcripts into categories (Seidman, 2006). Once the documents were saved in a Word file, they were then copied into Atlas.ti.6.1. This software is designed to simplify coding and analyzing data, and allows the researcher to draw conclusions based on trends and themes in the data. The advantage of using a database to accomplish the organizing of data is that the reliability of the case study is improved because the researcher can track and organize data sources (Baxter & Jack, 2008).

Initially I conducted open coding, considering the data in minute detail while developing some initial categories. Notes taken from the observations guided by the Differentiated Instruction Classroom Observation Form (Appendix B) and the running journal were first coded according to categories related to the implementation of content, process, and product. Interviews were initially coded using the categories of assessment or planning as they were related to readiness, interest, or learning profiles. Interviews were also coded as they related to content, process, and product.

After initial coding was completed, emerging themes related to collaboration were discovered and coded into the categories of collaborative environment, collaborative planning, and shared responsibility. Atlas.ti.6.1 assisted with the data reduction and data display recommended by Miles and Huberman (1994). It also contributed to the process of conclusion drawing and verification, but I was not confident in the reliability of this process. Therefore, I printed out the

49

information entered in the program and manually manipulated the coded data to complete the remaining of the analysis process.

To gain an overall evaluation of how teachers differentiated content, process, and product, data from the Differentiated Instruction Classroom Observation Form (Appendix B) was analyzed. The ratings of the observers were averaged for each observation to determine if the differentiation of the content, process, and products during each observation fell in the *Strong* category (more than five examples), *Some* category (five or fewer examples), or *None* category (there was no evidence of differentiated content, process, or product).

<div align="center">**Limitations**</div>

Credibility

Lincoln and Guba (1985) proposed four criteria for judging the soundness of qualitative research and offered these as an alternative to more traditional quantitatively-oriented criteria. The first criterion, credibility, is an alternative to internal validity as it is used in quantitative research. Credibility involves establishing that the results of the research are credible or believable from the perspective of the participant in the research. Since from this perspective, the purpose of qualitative research is to describe or understand the phenomena of interest from the participant's eyes, the participants are the only ones who can legitimately judge the credibility of the results. Three ways to increase construct validity are to use multiple sources of evidence, to establish a chain of evidence, and to have the draft case study report reviewed by key informants (Yin, 2004). To increase the credibility of this research, I collected data through observations and interviews. Field journals were also used to collect data. Once a draft case study report was completed, participants were asked to review the information. All participants agreed with the overall themes discovered.

Transferability

    The second criterion, transferability, refers to the degree to which the results of qualitative research can be generalized or transferred to other contexts or settings. This term is used in place of external validity which refers to the degree to which the results of qualitative research can be generalized or transferred to other contexts or settings (Trochim, 2006). External validity in qualitative research is often weak because the results may not be generalizable to other settings (McMillan, 2004). From a qualitative perspective, transferability is primarily the responsibility of the one doing the generalizing. The qualitative researcher can enhance transferability by doing a thorough job of describing the research context and the assumptions that were central to the research. The person who wishes to "transfer" the results to a different context is then responsible for making the judgment of how sensible the transfer is (Trochim, 2006). Due to the fact that the population for this study was not randomly selected and the fact that all observations and interviews occurred with teachers who have worked together for a long period of time, the results of this study may not be generalizable to fifth grade collaborative teachers at other schools or to teams who are just beginning to work together. To increase the transferability of this study, four sites were chosen.

Dependability

    The third criterion, dependability, emphasizes the need for the researcher to account for the ever-changing context within which research occurs. The researcher must describe the changes that occur in the setting and how these changes affected the way the researcher approached the study (Trochim, 2006). Since observations and interview responses cannot be replicated exactly as they were the first time, dependability is used in place of the quantitative view of reliability, which assumes the same results would be obtained if the study was repeated.

To increase the dependability of this study, I kept detailed field notes related to the environment of the observations and interviews. All observations were conducted within a two week period. During that time period all fifth grade classes in the district were at approximately the same point on the curriculum pacing guide and the students had been exposed to the inclusive model for the same amount of time at each site. Reactivity, which is the influence of the researcher on the setting or individuals studied, is also a threat to the study (Maxwell, 2005). To control for researcher influence, the observers visited the classrooms prior to the formal observations so that students and teachers were comfortable with their presence.

Confirmability

Confirmability, the fourth criteria, refers to the degree to which the results could be confirmed or corroborated by others. To increase the confirmability, I checked and rechecked the data throughout the study. The handwritten observations noted were typed word for word and the interviews were taped and then transcribed verbatim. Peer checking was completed on two of the transcriptions to verify accuracy. The participants were also asked to add any additional information they wanted to share or clarify. Only one participant had an addition. Confirmability was also increased by having two people conduct observations at each site and comparing the observer notes.

Bias/Researcher Perspective

The selection of data that fit the researcher's existing theory and the selection of data that "stand out" to the researcher are two important threats to the validity of qualitative conclusions. Both of these involve the subjectivity, or bias, of the observer (Maxwell, 2005). These biases are impossible to eliminate completely because they are built on the researcher's theories, beliefs, and perceptual "lens". During this study, I had to be aware of my perspective and try not to let it

influence how data was interpreted. To reduce the effects of bias, a team of three researchers conducted the observations and peer checking was done throughout the analysis process.

As a former special education teacher, I believe that the individual needs of a student must be considered when planning a lesson. Students come to school with a wide range of background experiences, family support, and educational ability. The goal of instruction should be to meet each child at his or her readiness level and then build on strengths using a variety of methods until concepts are mastered.

Reading is a critical skill needed for success in life. If a student is struggling in reading, teachers should do all they can to determine how to remediate this weakness. I believe that the majority of teachers choose their profession to help students reach their full potential; however, not all of these teachers have received the training and tools needed to obtain this goal. It is crucial to identify successful methods of differentiating reading instruction for students with disabilities. The goal is to share the information learned from this study with teachers who need assistance with bridging the achievement gap in reading between students with disabilities and those without disabilities. During this study, I had frequent conversations with the other observers to discuss observations and findings and to try to reduce the chance that preconceived expectations would impact how data was interpreted.

Delimitations

A delimitation addresses how a study will be narrowed in scope, that is, how it is bounded by logistics such as time, theoretical perspectives, and values of the researcher. Boundaries are always determined within the focus of the study (Maxwell, 2006). The boundaries for this study were (1) the research was limited to four sites in one district; (2) the participants were general and special education teachers who taught fifth grade reading in inclusive settings; (3) it was not

the first year the teachers in the study have taught in an inclusive setting; and (4) my assumptions

and values served as an informed place from which to begin the study.

CHAPTER IV

FINDINGS

Introduction

The purpose of this study was to analyze and identify successful instructional strategies used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive language arts classrooms. The goal was to answer the following questions with data gained through observations and interviews:

1. What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?

2. How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?

3. How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?

Description of participants and sites

Information regarding participants and their classroom composition was collected during interviews and observations. A summary of the relationships between the teachers and overall observed differentiation at each site is provided in this section. More detailed examples of how the teachers worked together at each site to differentiate instruction can be found later in this chapter.

During the interview process, I asked the teachers to describe their student population and the service delivery model used to meet the needs of their students with disabilities in reading. Two observations during reading instruction were completed at each site by at least two observers who took notes regarding teacher interactions and instructional methods. Observations were guided by the Differentiated Instruction Classroom Observation Form (Appendix B) and data collected was analyzed to gain an overall evaluation of how often teachers differentiated content, process, and product. The ratings of the observers were analyzed to determine if the differentiation of the content, process, and products during each observation fell in the *Strong* category (more than five examples), *Some* category (five or fewer examples), or *None* category (there was no evidence of differentiated content, process, or product). At Sites 1, 3, and 4 the observer ratings were in agreement in all categories for both observations. At Site 2 the observers were in agreement on ratings in all three areas during the first observation. During the second observation, there was disagreement in the ratings regarding process. To come to a consensus, the observers reviewed data collected from observations to determine the correct rating. The rating received in each category for each site is shown in Table 2.

Table 2.

Rating Received in Content, Process, and Product on the Classroom Observation Form of Differentiated Instruction

Site	Content	Process	Product
Site 1	Strong	Some	Strong
Site 2	Some	Some	Some
Site 3	Strong	Strong	Some
Site 4	Strong	Strong	Strong

Site 1

At this site there were seven students with disabilities served primarily in the general education classroom for reading. These students were either identified as other health impaired or learning disabled and were all served primarily by a teacher with a certification in Learning Disabilities K-12, Mental Retardation K-12, and psychology.

During both observations, two groups composed of both special education and general education students were pulled for a portion of the instructional block to a different room for small group instruction with either the special education teacher or the reading specialist. One group remained with the general education teacher. When the students returned to the general education setting they entered the room with minimal distractions, sought directions from the teachers about what to do, and joined other groups. This team spoke about their roles in a positive manner and appeared to have a very close relationship. These teachers were in their second year as a collaborative team and planned to work together again. The teachers at this site received a rating of *Strong* in the areas of content and process differentiation and a rating of *Some* on product differentiation for both observations.

Site 2

At this site there were nine students with disabilities served in the general education classroom for reading. Only one student was pulled out for a 30 minute block each day with another special education teacher for one to one reading instruction to address decoding weaknesses. These students were identified as learning disabled or other health impaired and the collaborative teacher in the room was certified in Learning Disabilities K-12 and Emotional Disabilities K-12.

During the first observation there was a general education teacher, a special education teacher, and a student teacher in the classroom, each one working with a group of students during guided reading. The student teacher and special education teacher worked with only one group each. The general education teacher rotated through the remaining four groups. During this observation, these teachers demonstrated a variety of differentiated instruction techniques. Multiple groups were conducted simultaneously and the students appeared comfortable with the procedures in place for working in groups. They worked quietly as teams and waited for the teacher to come to their group before seeking assistance.

Less differentiation was noted during the second observation, but this was due to the nature of the lesson, which was a review of benchmark tests in preparation for the SOL tests. Both the special education and the general education teacher were present during the second lesson and both helped explain answers to students; however, the primary instruction came from the general education teacher. Due to scheduling issues, the special education teacher and general education teacher were interviewed separately.

Both teachers spoke positively about each other but many concerns were noted about their collaborative relationship and the administrative supports they felt were lacking. Both teachers stated they had learned a lot working together, but would prefer not to teach together in an inclusive classroom next year. The teachers at this site received a rating of *Strong* in the areas of content, process, and product differentiation on the first observation. On the second observation they received a rating of *Some* on process and *None* on content and product.

Site 3

At this site both observations occurred in a pull-out setting with five students who were identified as either other health impaired, learning disabled, or emotionally disabled. The special

education teacher was certified in General Education PreK-6, Emotional Disabilities, and Mental Retardation. These students were previously served in an inclusive environment, but the teachers used assessment data to determine that they were in need of more intensive services than they could receive in the general education classroom. The teachers still planned together on a regular basis to make sure required state objectives were taught and that students in both classes received the needed accommodations. Even though the students were no longer served in the inclusive setting for the entire reading block, I felt it was important to keep this site in the study to determine how the general education objectives were designed to meet the needs of students who needed such specialized instruction. I observed conversations between the general education teacher and special education teacher regarding student planning and assessment, but only the special education teacher agreed to be interviewed due to time constraints.

During the interview, the special education teacher spoke about the value of planning with the general education teacher and stated the students did benefit from instruction when both teachers provided instruction in an inclusive setting. However, she felt the five students that were pulled to the small group setting had shown academic gains in the small group setting due to the amount of individualized instruction they were able to receive.

The teacher at this site received a rating of *Strong* in the area of process and a rating of *Some* in content and products during both observations. The rating of *Some* was due in part to the fact she was teaching five students in a pull out model who needed intense specialized instruction. Three of the students had fluency and comprehension issues and the others had decoding issues. The content and products required were very similar for the students with similar weaknesses.

Site 4

At this site there were eight students with disabilities served in the general education setting for reading. These students were identified as either students with learning disabilities or students with an other health impairment. The special education teacher was certified in Learning Disabilities, K-12. The teachers worked as a collaborative team to provide instruction.

During both observations all students remained in the general education setting and both teachers worked with all students. The students appeared comfortable working with both teachers and demonstrated that they understood the routines in place for working in groups. The teachers were interviewed as a team and shared that they had a close professional relationship. They discussed the benefits of working together as a team for both the students and themselves. Both teachers shared that they had asked the administrator if they could work together the next year. The teachers at this site received a rating of *Strong* in all areas (content, process, and product) for both observations.

Summary of Site Profiles

As shown in Table 3, the number of students with disabilities at each site ranged from five to nine. At Sites 2 and 4 students with disabilities were served only in the general education setting. Students were served primarily in the general education setting at Site 1, but were pulled out along with general education peers to smaller groups to address weaknesses as needed. At Site 3 the students were served primarily in the special education classroom due to the amount of specialized instruction they required in reading fluency, decoding, and comprehension. The primary responsibility for planning was shared by both teachers at Sites 1 and 4. The general education teacher did most of the planning at Site 2 and at Site 3 the special education teacher

did most of the planning. Only the team at Site 2 did not plan to teach together the following year in a collaborative model.

Table 3.

Summary of Site Profiles

	Number of Students with Disabilities	Where Students Served	Responsibility for Planning	Plan to Teach Together Next Year
Site 1	7	Primarily general education	Both teachers	Yes
Site 2	9	General education	Primarily general education	No
Site 3	5	Primarily pull out	Primarily special education	Yes
Site 4	8	General education	Both teachers	Yes

Participant Definitions of Differentiated Instruction

At the beginning of each interview I asked teachers to define differentiated instruction and to discuss what they felt was important to know about students when planning instruction. These questions allowed me to gain insight into the teachers' understanding of differentiated instruction and the framework they might use when planning instruction. The responses were all very similar, some more detailed than others.

The general education teacher at Site 1 defined differentiated instruction as, "…teaching in response to the students' needs and (providing) different ways to acquire the information by matching the students' level to their preferred mode of learning." The special education teacher at Site 1 stated, "It is important to know (student) strengths and weaknesses and their preferred mode of learning when planning." She then added, "All lessons are prepared so there is seeing it,

hearing it, and participating in it. [Students] are not just passive, sitting there listening to the teacher talk. There is always some activity and they have to respond to whatever we are doing."

At Site 2, the special education teacher's definition of differentiation was, "Individualizing instruction according to the child's needs." She discussed the importance of reviewing the student files to determine their ability and achievement levels and "How (students) learn, how they think, and what their interests are." The general education teacher's definition at Site 2 was, "Designing instruction to meet the needs of all learners; having consistent expectations about what they need to learn, but allowing students to meet the expectations in different ways. It is important to know what their strengths, weaknesses, and interests are."

According to the special education teacher at Site 3 was, differentiation involves "…teaching to (students') different levels, different abilities, and tapping into their strengths; It is important to know their strengths, weaknesses, and interests."

In the most detailed response, the general education teacher at Site 4 described differentiation as,

> meeting a child as close to his level as you can within the framework of your curriculum.
> We have (students) that are very concrete learners and they should be bridging to more of
> an abstract learner but really aren't yet. Just realizing that and bringing it down to where they
> are, that is more of what we deal with. How they learn, different types of learners…Where
> their weaknesses are where their strengths are… You really have to find out what interests
> them; what motivates them; what their interest level is and builds on that because many times
> they are not confident with their school ability. It is just human nature; when you are excited
> about something, motivated by it, you just want to work harder at it. While the definitions of
> differentiated instruction focused mainly on student characteristics, the individual

components of content, process, and product were also included in two of the definitions.

Table 4 provides a summary of the components of differentiated instruction incorporated into the teachers' definitions.

Table 4.

Components of Differentiated Instruction Incorporated in Teacher Definitions

	Readiness	Learning Profile	Interests	Content	Process	Product
Site 1 team	x	x			x	x
Site 2 general education teacher	x		x	x		x
Site 2 special education teacher	x	x	x			
Site 3 special education teacher	x	x	x			
Site 4 team	x	x	x			

I also asked the teachers about training they had attended related to differentiated instruction. All teachers responded they had attended one-day trainings sponsored by the school district, though only the special education teachers at Sites 3 and 4 shared positive feedback regarding the benefits of the district trainings and gave examples of how they had implemented what they had learned. The remaining teachers shared they felt the training was beneficial but when they returned to the classroom they did not have time to implement what they had learned. At Sites 1 and 2, the teachers stated the information was in a binder on their bookshelf but they had not had the opportunity to refer to it. The special education teacher at Site 2 shared that she would like the opportunity to see how other teachers implement differentiated lessons. She stated that if she were allowed the opportunity to visit a variety of teachers who were differentiating lessons she would be able to create even more ways to meet the needs of

individual students. She also stated that the most beneficial part of the trainings she had attended

is the opportunity to network with teachers at other schools to brainstorm ways to differentiate

lessons.

In addition to district sponsored trainings, all of the teachers reported they had also

participated in other professional development opportunities. Within the past two years, the

teachers at Site 1 attended two half day trainings sponsored by T-TAC, which is the Virginia

Department of Education's Training/Technical Assistance Center for Persons Serving Children

and Youth with Disabilities. The general education teacher at Site 2 stated she had attended

trainings sponsored by T-TAC and the University of Virginia approximately five years ago but

had not attended a training in the past five years outside of the district.

The special education teacher at Site 2 shared that she attended a six hour "Tools for

Teaching" training by Fred Jones in the past two years and stated she frequently uses the Visual

Instruction Plans she learned about during the session. In April, 2009 she also completed a week

long Orton-Gillingham Multisensory training designed to help teachers provide specialized,

differentiated reading instruction to students with reading disabilities. She had not been able to

implement many of the strategies with the fifth graders though because she did not plan with the

general education teacher and she felt the teacher would not be receptive to the techniques.

However, this teacher was implementing the strategies with her third graders who were pulled

out for a portion of reading and she hoped to work with a different fifth grade teacher the next

year which may be more receptive to the methods for students who needed more intensive

reading instruction.

The special education teacher at Site 3 stated she had attended training by Betty Hollis on

differentiation within the past three years and she felt she still implemented many of the

strategies she learned at the training. At the last site, Site 4, the special education teacher shared she had attended many trainings in the past but did not specify which ones. The general education at Site 4 discussed a four day Project CRISS (**CR**eating **I**ndependence through **S**tudent-owned **S**trategies) training she attended during the summer of 2008 which was designed to help all students read, write, and learn more effectively. This project is based on the premise that teaching students how to learn is everyone's responsibility and that this instruction can be done very effectively within the content areas by meeting the individual needs of students (Project CRISS, 2009). She shared that the training was valuable and she felt it helped her clearly understand the importance of designing instruction to meet various learners' needs. Both teachers at this site stated they would like the opportunity to attend more trainings together and would like feedback from observers on what they could do to improve their teaching practices.

The overall responses from the participants regarding training indicated one day trainings on differentiated instruction provided by the district gave them with a basic understanding of why they should differentiate instruction, but they needed practical guidelines on how to differentiate instruction. The one day trainings did not provide the teachers with the strategies they needed to be successful. Suggestions for training improvement included providing multiple trainings over the course of a year with opportunities to observe model lessons and receive feedback on how they are implementing differentiated training. The teachers who attended trainings that were several days in length, such as Project CRISS and the Orton-Gillingham training, were best able to describe how the training positively supported their instructional needs.

Assessment and Planning

Data are the key to determining appropriate instruction. They can be collected from a variety of sources and all information should be considered. To gain benefit from instruction, material

must be challenging for students, but attainable with support. It must also be interesting and presented in a modality that the student is able to understand (Tomlinson, 2003). During the interviews for this study, all participants were asked to discuss the data they used to determine appropriate specialized instruction for their students with disabilities in reading.

Prior to conducting the interviews, I met with instructional specialists in the district to determine possible data sources the teachers are able to access. The list of sources formulated included curriculum based assessments; results on the Direct Reading Assessment; previous report cards; results on the previous years' SOLs; standardized testing conducted as part of an eligibility for special education including educational, psychological, and sociological testing; summary cards from the previous teacher that contain observations about the student's abilities and behaviors; and information from parents and the students themselves. To determine what data teachers use and how they use it in planning to meet the varied needs of students, interviews were conducted with the teachers at each site. The questions were categorized to gain information specific to planning for readiness levels, interest levels, and learning profiles of students.

Readiness

Participants were asked what data they had access to that assessed student readiness skills. Readiness refers to a student's knowledge, understanding, and skill related to particular sequence of learning. It is influenced by a student's cognitive proficiency as well as prior learning, life experiences, and attitudes about school. Readiness can vary over time, and according to topic and circumstance (Tomlinson, 2003).

To assess student readiness, all participants stated they used results from standardized assessments such as the Direct Reading Assessment (DRA) to determine the appropriate

instructional level for their students. The DRA is a researched based assessment given to all students in the district in kindergarten through fifth grade. Results from fourth grade testing used by the fifth grade teachers include sub-scores in the areas of: DRA Text Level; Reading Engagement; Oral Reading Fluency; and Comprehension Skills/Strategies.

All participants also stated they had reviewed information in the cumulative folder, including any previous educational and psychological evaluations, to determine student readiness levels. The general education teachers admitted that they found the standard scores reported in the educational and psychological testing results to be difficult to understand, but they read the summaries of the reports and tried to incorporate as many recommendations as possible in the classroom. The Individual Education Plans (IEPs), which are located in the cumulative folders, were reportedly easier to read to determine the student's current level of performance, goals and objectives, and plan for standardized assessments. All teachers discussed the importance of reading the IEPs to gain a better understanding of the students' strengths, weaknesses, and goals. The special education teacher at Site 1 stated, "The IEP is the perfect place to gain information about a student. When written correctly the present level should reflect what the student can and cannot do and what supports he needs to access the curriculum."

At Sites 1, 3, and 4 the general education teacher reviewed the information in the file with the special education teacher. The general education teacher at Site 2 stated she reviewed the files of the general education students and relied on the special education teacher to summarize the contents of the folders of students with disabilities. She said,

> The special education teacher did most of (the file reviews). She gave me their snapshots. We had a spread sheet of what their disabilities were and the things that would help them and that is what I would use. For example, if I was planning something and I knew there was a

visual disability I would look at the sheet and it would give me options. For example, use

bigger print.

Benchmark tests, spelling inventories, and other curriculum based assessments were also tools used by all participants to determine readiness levels. The teachers at Site 1 discussed the importance of assessments. The general education teacher stated, "I think we have issues with the language arts program and assessments. Students read the stories but yet aren't really tested on the stories, but what we do is create assessments that have questions for the stories so they are tested on comprehension." The teachers at Sites 3 and 4 discussed how they use the end of unit tests to determine if a student is ready to move on to new material. The special education teacher at Site 2 shared that they also used curriculum based assessments, but that she felt there was little remediation if the students did not demonstrate mastery of a concept. She gave an example of how the students with disabilities frequently were incorrect on their Daily Language Practice but they were not given the time to correct their errors and no re-teaching was done. The general education teacher did not discuss this in her interview.

Teachers at Sites 1, 2, and 4 stressed the importance of keeping the lines of communication open with previous teachers so that they could discuss past areas of strengths and weaknesses of students. When discussing communication with other teachers, the general education teacher at Site 1 stated, "Our teacher communication cards are excellent. They really give a lot of information that helps us place them according to readiness and what they like." Previous report cards and SOL test results from previous years were not mentioned as a source of data used by any of the participants.

Table 5.

Data Used by Teachers to Determine the Readiness Levels of Students

Possible Types of Readiness Data to Use for Planning	Site 1	Site 2	Site 3	Site 4
Curriculum based assessments	x	x	x	x
Direct reading assessment	x	x	x	x
Educational testing from eligibility	x	x	x	x
Psychological testing from eligibility	x	x	x	x
Information found in individualized education plans	x	x	x	x
Summary cards from previous teachers	x	x		x

After the participants discussed the types of assessments they use to determine student readiness levels, they were then asked how they used the data related readiness to plan instruction to meet the needs of students with disabilities in reading. In the teams that appeared to have the strongest collaborative relationships, the teachers discussed how they reviewed the information as a team. The teachers at Sites 1, 3, and 4 met during teacher work week to use data to analyze the needs of all of the students in their class and to create groups that would be used to start the year. After DRA and benchmark testing were completed in the fall, they met again to reorganize groups according to student readiness levels at that time.

At Site 2 the general education teacher stated she relied on the special education teacher to summarize information from the cumulative folder and then share it with her. This team did not meet during teacher work week to determine reading groups; the groups were originally determined solely by the general education teacher who used DRA results from the end of fourth grade. After the fall testing was completed, the general education teacher did seek input from the

69

special education teacher about how to reassign students to groups, but the general education teacher made the final decisions. The general education teacher proudly stated that she used data to change group three or four times during the year so the kids "didn't feel stagnant." The special education teacher did not share as much enthusiasm about how groups were changed.

During the interview with the special education teacher at Site 2, she shared that she wished more time was devoted to using assessments as a tool to determine instruction. She discussed the importance of taking assessments back as far as needed to determine where the gaps are and felt that was what they should have done as a team. She gave an example of a fifth grader she had assessed on rules such as soft and hard z and w and s. She stated it was imperative for him to grasp those and other basic concepts before he could move on but that the general education teacher did not think there was enough time in the reading period to conduct such assessments because the curriculum requirements were so great. When asked if she thought that a common planning time may have helped her work with the general education teacher to incorporate more assessments she indicated it may have been beneficial; however, she was not sure that even with common planning time the general education teacher would have given her more input into how to assess students.

The teachers at Sites 1, 3, and 4 all reported using a data summary sheet to fill in achievement scores and other information to help form student groups. The teachers at each site created their own data sheet; there was not a standard form provided by the district. They updated the data sheets as they gave new assessments and restructured groups as needed. These teachers stated they used the information to determine the level of novels to be used in groups, to design individual stations, and to determine which students were in need of small group instruction focused on skill remediation. At Site 4 if a student did not make progress over a period of six

weeks, the teachers consulted the reading specialist to determine if there was another method or other supports they should try to instruct the child. At Site 1 the teachers gave an example of a student who began the year in the lowest group and by the end of March was in the highest group. The teachers attributed the student's success to the small group instruction she received throughout the year that focused on her targeted areas of remediation.

Due to the variety of the students' reading levels in comprehension, decoding, and fluency at Site 3 the teacher stated it was critical to maintain data related to all of their readiness levels. She created five separate lesson plans, each with the same curricular level objectives but with a different presentation model, so that all students could benefit from the lesson. She frequently had to assess each student to determine when he or she was ready to move to a new instructional level. She stated, "Lessons have to be planned with each student in mind. In addition to their instructional level, I need input from the general education teacher about what I need to cover and then I need a visual reminder of how I am going to do that." She met with the general education teacher during planning once a week to determine the needs of the students with disabilities that remained in the general education classroom, but there was not a specific role she played in implementing the lessons since she was not in the room at that time. The service time of the students with disabilities that remained in the general education classroom was met during another portion of the reading block.

As indicated in Table 6, the teams were not consistent in how they planned together or took responsibility for implementing lessons. The teachers at Sites 1 and 4 wrote their lesson plans together based on data sheets and clearly designated what each teacher was expected to do. They designated the groups they would be responsible for each day and noted when they expected individual students would need more assistance than others. The special education teacher at

Site 3 was the primary creator of individual lesson plans for each of the five students in her group. She used data to guide instruction and planned with the general education teacher at least once a week. The general education teacher at Site 2 wrote all of the lesson plans and designated the special education teacher's role for working with the students with disabilities. She then shared the plans with the special education teacher and allowed her to make adjustments as needed.

Table 6.

How Teachers Designed Lessons to Meet the Readiness Levels of Students

Key Observations	Site 1	Site 2	Site 3	Site 4
General and Special education teacher planned together	x		x	x
Plans denote individual teacher responsibilities	x	x		x
Use summary sheet with student data to plan	x		x	x
General Education teacher is primary planner		x		
Special Education teacher is primary planner			x	

A key concern discussed by teachers at each site was the difficulty of planning lessons with the expectation all students would achieve the fifth grade objectives given the varying readiness levels of the students. They found it difficult to find time to provide the foundational skills that students may lack but require to grasp the higher level concepts. The general education teachers at Sites 2 and 4 shared concerns that they were hesitant to give up class time when remediation was needed because they feared the students would not be exposed to all of the required information tested on the Standards of Learning. The general education teacher at Site 2 also discussed the fact that, "Most of these students are going to be in the collaborative setting in

middle school, but they will be expected to move forward at the same pace as everyone else. They need to understand that the expectations are high and they need to keep moving forward." The teacher at Site 3 stated that the pull out model was beneficial to the students who needed more help with the foundational skills, but she was also concerned that there were aspects of the general education curriculum that the students would be assessed on that she was not able to present due to time constraints.

Interests

The more interesting students find a topic, the more motivated they are to study it. Motivation, which is the set of reasons that determines to what extent a person will engage in a particular behavior, can be affected by elements in the school (Tomlinson, 2003). While all teachers stated they did take student interests into account when planning, the discussions related to interests were not as detailed as those related to readiness. As discussed in the previous section, teachers reported that the key factor in planning was to determine what the students' strengths and weaknesses were and in which areas they needed remediation in order to move forward and master the required curriculum.

When asked what data teachers used to determine student interests, all of the teachers replied that information collected during student observations were key. The teachers at Sites 2 and 3 stated they relied on observations of students in the classrooms, a review of journal entries, and information gained through conversations with the students and previous teachers. The special education teacher at Site 3 stated, "The best way to know what interests a student at the start of the year is through the previous teacher." She said that once she worked with students several weeks and read what they wrote in their journals, she was able to quickly get a handle on what they like. The special education teacher at Site 2 said, "I ask my students what it is that they like

73

because they are more motivated to do it. I also look to see what they choose to do. With our structure though we are not always able to give a student what they like for all units." She did share that she was able to address interests more during shared reading time. When describing how she did this she stated,

What I really liked this year were the leveled readers. I would bring a couple of packs of leveled readers and since I had mostly boys I was able to pick more of nature themes. Animals, nature, forest. These boys liked the non-fiction. I asked them what they liked before they had to pick one. Many of those leveled readers fit right in with the novel study that was going on at that time, which was nice.

The teachers at Site 4 stated they used the information gained from parent questionnaires and from the present level of the IEP to determine student interests. They also said they give the students a lot of choices and then get to notice a pattern of interests. An example given by the general education teacher was, "When students are given the opportunity to read books from the library we take note of who gets books on animals, who reads books on sports, who reads fiction, who reads nonfiction, and we develop an idea of what they like." This team of teachers felt student interest was so important that they did end of year surveys to prepare the students for middle school. The information was then shared with parents to let them know what their child is interested in, what they like to do, and what they are most comfortable doing. They incorporated the information in the present level of IEPs for students with disabilities and encouraged the parents of students without disabilities to share the information with the middle school teachers.

At Site 1, the teachers also gave informal interest surveys to students but the special education teachers stated,

I think it is most important to get to know them one on one. One of the things I sort of feel

is that a fifth grader, especially ours, their life experiences are so limited. Their backgrounds,

their visiting museums with mom and dad, their field trips are so limited I still feel that at this

age it is up to us to offer all of those areas they don't' even know exist. All of the boys are

going to say football, but there are other things that they are interested in. I think it is just

getting to know them.

Table 7 summarizes the data used by teachers to determine the interest level of students. The

teachers at every site relied on classroom observations and student interviews. At Site 1 the

teachers also used parent interviews. In addition to observations, the teachers at sites 2 and 3

referred to summary cards from previous teachers and the teachers at Site 4 gathered information

from IEPs.

Table 7.

Data Used by Teachers to Determine the Interest Levels of Students

Possible Types of Data to Use for Planning	Site 1	Site 2	Site 3	Site 4
Information found in individualized education plan				x
Summary cards from previous teachers		x	x	
Classroom observation	x	x	x	x
Parent interview or questionnaire	x			
Student interview or survey	x	x	x	x

When planning lessons to address the interest levels of students, all teachers stated they tried

to incorporate a variety of interesting materials into their plans. In one class there was a boy who

loved to draw so the teacher tried to find a variety of books that related to art. One class had a

group of boys who loved animals and another that loved football so materials that incorporated those themes were used when possible. The teachers at Sites 1, 3, and 4 reported that they discussed specific student interests when they planned lessons for the week.

At Site 4 the teachers shared that they were very happy with several of the ways they had motivated all of their students in reading. First they let students preview the stories as a group and then they let them decide which stories they wanted to read. Monitoring student progress on a variety of novels at one time was difficult for these teachers, but they set up white boards in the back of the room with the names of the books, activities for each, and the names of the students who were reading each book. They also were reading interactive mystery books during lunch which motivated the students to want to read more on own.   Both teachers at that site stated that the more they give students a choice, the more they have them hooked into reading.

Learning Profile

A student's learning profile refers to the preferred mode of learning of the student. It can be affected by a number of factors including learning style and intelligence preference (Tomlinson et al., 2008). Research has shown individuals do not all learn in the same way, so instruction should not be the same for each student (Sternberg & Grigorendo, 1998; Tomlinson, et al., 2008).

The teachers at all sites reported they used eligibility testing in the students folders to determine learning profiles for students with disabilities. At Sites 1 and 4 the teachers gave detailed explanations regarding how they also used surveys to assess learning profiles. At Site 1 the teachers gave an example of how they discussed the types of Multiple Intelligences with their students and gave them the opportunity to activities using each of them. The teachers stated, "They enjoyed trying the different activities and many were able to quickly indentify which style

76

they were most comfortable with." The teachers at Site 1 discussed how they begin planning by discussing the curricular objectives that must be taught and then think about how specific students will be able to understand the concept. They stated they often went "over the top" brainstorming about how to present ideas and then choose the best two or three ways to meet the needs of their students.

Site 4 had the guidance counselor come in at the beginning of the year and do a series of interactive lessons. Students were given self-assessments and the counselor modeled various types of strategies that could benefit students with particular learning profiles. The general education teacher stated, "It is amazing when they realized what their learning profile is. It is like, oh I got it! Now I know why I do what I do". These teachers discussed how it benefits the students to realize everyone learns differently and to accept those differences.

At Site 3 the special education teacher said she reviewed the IEPs and the educational and psychological testing in the cumulative folder to get a sense of student learning profiles, but also stated she could best tell what the students' learning styles were from observations of how they participated in class. She stated that working with such a small group made it easier to determine who did best when information is presented visually and who needed to hear the information presented orally. She also gave an example of a student who had to do "something" with the information before he can learn it, such as draw words in shaving cream or highlight words on a card.

The general education teacher at Site 2 relied on the special education teacher to summarize information from cognitive and educational evaluations in the file to determine if there was a student who needed specific methodologies to address his or her learning needs. She stated that she was aware of individual needs and used observations to determine which students responded

best to various instructional techniques. Table 8 summarizes the types of data teachers at each site used to access information regarding the learning profiles of students.

Table 8.

Data Used to Determine the Learning Profiles of Students

Possible Types of Data to Use for Planning	Site 1	Site 2	Site 3	Site 4
Information found in individualized education plan			x	
Information in cumulative folder	x	x	x	x
Classroom observation			x	
Student interview or survey	x			x

When asked how they planned lessons to address the learning profiles of students, each teacher responded that she used a variety of instructional techniques during every lesson including pairing visuals with verbal information. At Site 4 the general education teacher stated,

As we are introducing or planning something, we incorporate the visual with the auditory. We do a lot with the overhead and with the Elmo. We use highlighters, sticky notes, we do a little bit of everything…We encourage students to do things that will enhance and key them into key words, key them into specific meanings, looking at introductions, looking at examples.

The special education teacher at Site 3 responded that her goal was to make sure all students got something out of instruction. She gave an example of one boy she encouraged to use colored pencils to make notes in the margin to remember when he reads something significant. She had another student that responded best when information is presented in rhyme so she often presented material to him in quirky songs.

When asked if they indicate how lessons will be presented in their written lesson plans, the teachers at Sites 1, 3, and 4 stated their plans do denote if presentation methods are visual, auditory, or kinesthetic. They also indicate the responsibility of each teacher for creating or presenting using the various materials. At Site 3, the primary instruction is done by the special education teacher, but plans denote resources that may be provided by the general education teacher. The general education teacher at Site 2 stated she always incorporates visual examples along with her oral presentations to demonstrate a concept but does not typically indicate if activities are designed to fit a certain learning style.

Implementation

Once teachers have collected data and planned a lesson to meet the individual needs of students, they then need to implement their plans. In addition to interviewing teachers to find out how they use data to plan a differentiated lesson, two observations were conducted in each classroom during reading instruction to determine how teachers implement their plans. At Sites 2 and 4, observations of instruction occurred only within the general education classroom. At Site 1 the majority of the instruction occurred within the general education classroom, but both special and general education students were pulled to one of three groups for approximately thirty minutes during the two hour language arts block. The teachers shared that these three groups were based on readiness levels determined by the results of ongoing assessments. The observers split up to observe each group during the small group instruction. At site 3, both observations of instruction occurred within the special education classroom.

Content

Content refers to what the student needs to learn or how the student will get access to the information; it is the information students are to be taught and the level of knowledge or

proficiency they are to demonstrate. The expectation of a differentiated lesson is that there is a common objective for all students; however, the students may master the content in different ways (Heacox, 2002; Tomlinson, 1999, 2001, 2003). Examples of differentiating content at the elementary level include the following: (1) using reading materials at varying readability levels; (2) putting text materials on tape; (3) using spelling or vocabulary lists at readiness levels of students; (4) presenting ideas through both auditory and visual means; (5) using reading buddies; and (6) 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, 2000).

The curriculum guidelines for fifth grade Language Arts in the district chosen for this study state,

Fifth grade students will apply a variety of reading comprehension strategies before-, during-, and after- reading to enhance understanding of text. They will continue to develop an appreciation for literature by reading a variety of fiction and nonfiction selections across content areas. Students will increase communication skills by participating in a variety of learning experiences and will use online, print, and media resources to prepare presentations. In addition, students will plan, draft, revise, and edit to describe, to entertain, and to explain. All aspects of literacy will be taught through a balanced literacy framework for instruction, enabling all students to become independent and strategic readers, writers, thinkers, and communicators.

This comprehensive goal does not state a specific reading level requirement and allows students of various reading abilities to demonstrate growth in a variety of areas. However, the readability level of the Standards of Learning tests require that students be reading near or on grade level to comprehend the majority of the questions asked. Preparing students who are

reading several grade levels below their expected achievement level for state testing is a difficult task for teachers.

As discussed in the previous section on readiness, the teachers at all sites made comments during their interviews that they struggled with how to instruct students with varying ability levels on the required curriculum objectives. Teachers who demonstrated strong collaborative relationships and stated they were satisfied with the instructional materials available demonstrated a strong ability to differentiate instruction during both observations. As shown in Table 2, the teachers at Sites 1, 3, and 4 received and average rating of *Strong* (more than five examples) in the area of differentiating content during observations. The teachers at Site 2 received an average rating of *Some* (five or fewer examples) during their observation. This was due in part to the nature of the second lesson observed at Site 2 which was a review of a practice SOL test presented only in lecture format.

The general education teacher at Site 2 stated, "(Students) all have to learn the same concepts…. It is how you deliver that is the difference." The general education teacher at Site 4 stated,

> If students don't get it, you just then present it in a different way… The special education teacher presents things in a different way from what I say. She'll put emphasis on whatever and just hearing it two different ways or with two different people speaking but saying pretty much the same thing helps students. They all have to understand what we are trying to teach.

This was observed within the classroom on multiple occasions. During the process of filling out a concept map for vocabulary the general education teacher was explaining the definition of diplomat. Many of the students did not seem to understand the context in which she was using

the word and the special education teacher chimed in and gave an example of someone who makes peace between two arguing friends. She gave an example of what would happen if she and the general education teacher argued and one of the students stepped in to help each see the other person's side.

To meet students where they were academically, the teachers at all sites provided students with reading materials written on their levels. They also varied the reading materials according to the interest levels of the students. By allowing students to read at a level that was challenging, but that could be mastered with some work and assistance, the students were able to make progress on their instructional levels. Teachers at all of the sites discussed how they conducted ongoing assessments to gauge progress and to adjust the readability of materials and groupings as needed. Many of these assessments were done as they listened to the students read aloud or when they asked them comprehension questions regarding what they just read.

Guided reading, which is the time during which a teacher works with small groups of children who have similar reading processes and needs, was observed at each site. For guided reading, the teacher should select and introduce new books carefully chosen that match the instructional levels of students and support whole text reading. According to Fountas and Pinnell (1996), guided reading should foster comprehension skills and strategies, develop background knowledge and oral language skills, and provide as much instructional-level reading as possible. Ongoing observation and assessment should be done to help inform instruction and grouping of students.

At Site 1 there were five reading groups each reading the same story from the textbook during the first observation. Four groups worked in the corners of the room and one group met in the hall. Both teachers rotated through and provided instruction to all groups. These groups were set

up by the teachers and contained students with varying reading abilities. For this story, the teachers paired strong readers with weak readers. During the second observation, the groups at this site were each reading different stories according to their ability level. The teachers provided more direct instruction to the lower reading groups on this day and allowed the students with higher reading abilities to read the story quickly and then focus on related enrichment activities. The teachers shared they continuously mixed up the reading groups to prevent students from feeling they are "leveled" into any given group.

Similar groups were set up at Sites 2 and 4. During the first observation of Site 2, the students were divided into six groups. One group was reading a novel with the special education teacher, one group was reading a different novel with the student teacher, and the remaining four groups were reading a third novel. The novels read with the special education teacher and student teacher had a readability of a fourth grade level according to the teachers. The third novel had a fifth grade readability level. The general education teacher rotated through the four groups reading the fifth grade novel to provide instruction but did not interact with the other two groups. Throughout the guided reading period the teachers reminded the groups about the reading strategies and connections they should make. Examples of the connections they were to use were posted in the room and included: text-to-self (connecting selection with own experiences), text-to-text (connecting selection with a similar book previously read, and text-to-world (larger connections such as a television program viewed that relates to the selection).

At Site 4 students were reading either one of two stories during both observations and were divided according to their reading levels. The students in the two groups with the lowest reading abilities had vocabulary cards with pictures and easier synonyms written under the vocabulary words. The teachers said they did a vocabulary activity with all of the students at the beginning

of each story using a concept map on which they defined the word, drew a related picture, used the word in a sentence, and provided a synonym and antonym. The students who had difficulty with the vocabulary used this map throughout the story as a reference tool when they encountered unfamiliar vocabulary words. The teachers both rotated between all groups and reinforced strategies and connections while they worked with the students.

At Site 3, the students read passages during guided reading. These passages had a readability level that fell at the end of a second grade level. The teacher sat at a kidney shaped table in front of the students and allowed each one the opportunity to read. The stronger readers were given longer sections to read and then were asked higher level comprehension questions at the end of their reading. For the lowest reader, the teacher selected a shorter passage and either read the passage prior to the student reading it or helped the student decode unfamiliar words. The student was then asked concrete questions such as who, what, when, or where. The teacher reminded the students throughout the lesson how to use strategies such as sounding out words and using replacement words to fill in the blanks when they did not know a word. She also focused on connections.

In all four sites, there was evidence of presenting ideas through both auditory and visual means. Teachers had posters related to the steps for good reading and visual representations of vocabulary words were on the walls. At Sites 1 and 4 technology was used to provide visuals during instruction. The use of the overhead projector and Elmo provided opportunities to gain a visual representation of concepts discussed. To meet the auditory needs of students, the teachers at sites 1, 3, and 4 provided various methods of read aloud services. Sites 3 and 4 had stories on CDs for the students available for students with weak fluency or decoding skills and Sites 1 and 4 provided partner reading opportunities so weaker students could read with stronger students.

The teachers who utilized partner reads said that the practice allowed both students to improve their fluency rates by practicing oral reading and it provided the teachers with an opportunity to listen to students read orally in a setting where they did not feel they were being assessed.

At each site, the students were allowed to choose selections on their individual reading level, as assessed by the DRA, for independent reading. The goal of independent reading is to provide students the opportunity to read books that interest them without teacher support to improve comprehension and fluency. The teachers at Sites 1, 2, and 4 had leveled reader libraries within their room to provide a large selection of books for the students. The teacher at Site 3 did not have as many books available to her within the classroom that were low level and/or high interest. She stated most independent leveled books had to be selected from the library. The examples of differentiated content observed at each site are summarized in Table 9.

Table 9.

Examples of Observed Differentiated Content

Examples of differentiated content	Site 1	Site 2	Site 3	Site 4
Materials with varying readability levels	x	x	x	x
Text materials on tape or CD			x	x
Ideas presented through both auditory and visual means	x	x	x	x
Use of reading buddies	x			x
Small group instruction to re-teach or extend skills	x		x	x

Process

Process involves the activities in which the student engages in order to make sense of or master the content; it is when students begin to make personal sense of information, ideas, and

skills and are able to grapple with problems using learned information (Broderick, et al., 2005; Tomlinson, 2000). Examples of differentiating processes outlined by Tomlinson include (1) using tiered activities through which all learners work with the same important understandings and skills, but proceed with different levels of support, challenge, or complexity; (2) providing interest centers; (3) 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 learners) to be completed either during specified agenda time or as students complete other work early; and (4) offering manipulatives or other hands-on supports for students who need them. As shown in Table 2, Sites 1 and 2 received an average rating of *Some* (five or fewer examples) in differentiating process. Sites 3 and 4 received an average rating of *Strong* (more than five examples) in differentiating process.

In all four classrooms there were areas with folders for students that contained work at their readiness and interest levels. The directions for the centers were posted clearly at Sites 1 and 4 and each student at these sites had a task list of activities that were designed to be completed either individually or in groups, depending on the assignment. The activities set up at Sites 1 and 4 were planned jointly by the collaborative teachers, related to the current unit of study, and provided students the opportunity to access a variety of resources (internet, books, newspapers) to demonstrate an understanding of various concepts. Even though clear directions were not posted at Sites 2 and 3, the students at all sites went to get their folders when told and returned to their areas without disrupting the rest of the students in the class. When they were finished with their assignments the students at all sites also put their materials back into their folders and returned them to the designated site.

At Sites 2 and 3, folder activities were designed to supplement the instruction during a time designated specifically for individual work. For example, at Site 3 there were vocabulary activities including crossword puzzles and jumbles based on each student's vocabulary level. They also had the option of drawing a picture, writing a story, or creating a song or poem using the words. The teachers used this time to meet with individual students to assess their mastery of a variety of skills. The folder activities were individualized to meet the interest and readiness levels of the students. The products from the folders were used to collect data regarding the progress of the students and their mastery of concepts. At Site 3, the general education teacher was primarily responsible for planning the lessons and at Site 3 the special education developed the activities for her students. Table 10 denotes the types of differentiated processes observed at each site.

Table 10.

Examples of Observed Differentiated Processes

Examples of differentiated process	Site 1	Site 2	Site 3	Site 4
Tiered activities	x	x	x	x
Interest centers	x	x	x	x
Student task lists	x	x	x	x
Manipulatives	x	x	x	x

As discussed in the section on content, the teachers felt they had to expose all students to the required curriculum, but in order to provide all students an opportunity to be successful the activities needed to be tiered to meet varying readiness levels. Tiered lessons were observed at each of the four sites. The students with lower comprehension levels were provided more direct support from the teachers and they were required to answer more concrete questions than

students with higher comprehension skills. For example, at Site 4 students in a lower reading group were asked to name two characters and write one sentence about each one. In the higher reading group the students were asked to compare and contrast two characters and identify which one they felt they were most like.

Manipulatives and other hands-on supports were also used in all four sites. In each classroom observed, students were encouraged to highlight material or write notes in margins. At Sites 3 and 4 several students used trackers to help keep their place while they read. The teacher at site 3 used laminated headers related to inferences and details during one lesson and key vocabulary terms related to reading during another lesson. The students were able to manipulate the laminated headers on a magnetic white board and write or draw information below the headers.

When discussing how to plan to make sure the process engaged all students, the special education teacher at Site 3 stated she always designed plans to make sure all students got something out of the lesson. She gave an example of one boy with both short and long-term retrieval deficits who she taught to draw representations or make short notes about what he had read in the margin. She also provided this same child with a task list for each lesson so he would understand what he needed to complete each period. The general education teacher at Site 2 discussed a "think mark" strategy she used which is similar to a book mark designed to help the students think about strategies as they read. The bookmark was also used to prompt students with memory deficits to go back and review their notes after they finished reading a selection. During observations several students referred to their bookmark as they read.

Product

The products of a lesson are the culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit (Tomlinson, 2000). Examples of differentiating

products include: (1) giving students options of how to express required learning; (2) using rubrics that match and extend students' varied skills levels; (3) allowing students to work alone or in small groups on their products; and (4) encouraging students to create their own product assignments as long as the assignments contain required elements.

During several of the observations, students were working on on-going assignments so final products were not always demonstrated. In those cases, the observers read the instructions for the assignments and menu choices, where available, to determined if a differentiated product would be produced in the future. As shown in Table 2, the teachers at Sites 1 and 4 received an average rating of *Strong* (more than five examples) in the area of product and Sites 2 and 3 received and average rating of *Some* (five or fewer examples). At all sites the teachers stated they were unable to differentiate assessments such as the benchmark tests that are required by the district, but they did provide students with the option to submit a variety of products related to novel studies. These options were provided in the format of a menu of choices. None of the students in the classes observed created their own assignments different from what was offered on the menu.

At Site 3, the instructional focus was on improving the comprehension, fluency, and/or decoding of each student on basic passages so there were fewer products required that were related to novel study. The students did read several novels on their level throughout the year and had a choice of several types of culminating activities such as drawing a picture depicting the sequence of events, listing the main characters and writing a sentence to describe each, or creating a mosaic from magazine pictures that would be an appropriate book cover for the story. The directions for the projects were clear but no rubrics were used. When asked about products required from students, the teacher at Site 3 stated,

It is never the same thing. We do of course read the passage and answer the multiple choice questions. You have to prepare them (for standardized tests), but we might fill out graphic organizers together or independently, and I might do oral questioning as we are going along and they answer questions as we go along and that is a grade… I think you have to do that to tap into everybody's strengths and abilities and get a good overall picture. A student might be good at multiple choice every single time, but if I have to get him to fill out a paper that might not be his area of strength so I don't want to base his reading grade on one type of assessment.

At Site 4 the teachers gave examples of projects submitted for novels they read during the year which included posters, skits, giving a speech as one of the characters, writing a letter to a main character, creating a comic of the events, and creating a three dimensional model of a scene from the story. Each project was graded according to a rubric that outlined the expectations for each student. This allowed the students to understand the expectations and it forced the teachers to assess the student's knowledge of the required core concepts. The product options for each novel depended on the story and ability levels of the students. The students at Site 1 were also given choices of similar products each with rubrics, but all students at this site were also required to complete a book report on each novel read. These book reports were graded using a rubric. The length and complexity of content expected on the book report was varied according to individual student ability levels.

At Site 2 all students were expected to complete book reports on the novels. A variety of projects based on novels were done throughout the year but the basic expectation was the same for all students. The general education teacher shared that she held high expectations for all students and believed that students would meet expectations if they were held to her high

90

standards. All students were expected to complete the same format and produce the same amount of work as outlined in requirements given to the students. The general education teacher was willing to accept a varying degree of sentence and vocabulary development based on student ability levels. Table 11 summarizes the differentiated products observed at all four sites.

Table 11.

Examples of Observed Differentiated Products

Examples of differentiated process	Site 1	Site 2	Site 3	Site 4
Student menu of choices	x	x	x	x
Use of rubrics	x	x		x
Work in small groups or individually	x	x	x	x
Student designed products				

Emerging Themes

While the primary purpose of this study was to examine how teachers use data to plan and implement differentiated instruction, a theme related to the importance of collaboration between teachers emerged during data analysis. I noted there were many comments related to the importance of good collaboration and also noted that the teams that appeared most comfortable implementing differentiated lessons were the ones that talked in depth about how they worked together and how they appreciated the supports they have. Three categories emerged as a framework to discuss the importance of the collaboration between the teachers: environment, planning, and shared responsibility.

Collaboration-Environment

In addition to content, process, and product, a fourth component of differentiated classrooms often cited in literature is the learning environment. Tomlinson (2000) defines environment as

the way a classroom works and feels. I did not originally plan to examine the environment of the classrooms because it is difficult to evaluate based on two observations. However, the teachers that rated *Strong* in the areas of differentiating content, process, and product had classrooms that were structured to meet the needs of a variety of learners.

The classrooms at both Sites 1 and 4 appeared welcoming to all students. The teachers interacted positively with all students and the students appeared happy to talk with both teachers during unstructured times. The students demonstrated respect for each other and appeared familiar with the guidelines and routines regarding working in collaborative groups. Both rooms had places where students could work independently as well as areas designed to facilitate group discussions. The strength of the relationship between the teachers appeared to contribute to the amount of differentiation provided. The special education teacher at Site 1 stated,

> The environment is such a huge part of collaborative teaching. (The general education teacher) couldn't be more positive and/or accepting of the students. I mean she has never said a negative thing about them and I know it seems like who would, but there are teachers who find students not performing where they should be are just a source of irritation… it makes you nervous because you say come on you've got to do it to keep the teacher happy, but in our situation I know she is truly there to encourage and support all of the students.

The general education teacher then stated

> We have gotten to the point that, as I was saying to her this morning, if there is an activity or a concept she is trying to get across and as soon as we meet she looks at me like this is going to be difficult, we stop (and figure out how to) make it work. I mean she knows the children instantaneously. From the beginning of the year she understood

92

and she is always right. .She will say maybe you may want to work with your kids in a small group and it is right. She really has understood them very well.   I think differentiation is a concept that the whole county has to embrace.

While there was not a general education teacher in the room during the observations at Site 3, the special education teacher discussed the importance of the support she gained from the general education teacher when determining the core curriculum she was expected to teach. She shared that both teachers continued to feel responsible for all of the students. She believed that the students felt comfortable in the resource room and were able to transition easily back to the general education setting following their small group instruction. By forming a collaborative relationship, both teachers provided an accepting environment for the students.

During the first observation, Site 2 had a variety of groups working simultaneously and the students appeared very comfortable working in the groups. They interacted respectfully with each other and waited for the teacher to approach their group before seeking assistance. The classroom contained many visuals and materials to motivate students. The teachers both appeared to work hard with their groups, but there was not a collaborative relationship noted. There were few interactions between the teachers and they each limited their involvement to specific students.   Both teachers at Site 2 indicated in interviews that they did not have a strong collaborative relationship and both felt that was due in part to the fact they were rarely able to plan together.

Collaboration-planning

Shared planning was another concept that was discussed by all teachers.   Each general education teacher attends a variety of trainings related to the content area he or she teaches and the special education teachers attend trainings related to special education procedure and

strategies designed to meet the needs of students with disabilities. Therefore, the general education teacher often brings content knowledge to the table and the special education teacher provides suggestions on how to tailor the instruction to meet individual needs. To create lessons to meet the needs of all students, every teacher stated shared planning time was a necessity. At Sites 1, 3, and 4 the administrator worked with the teachers to create a schedule that allowed shared planning. At Site 2 the teachers stated they did not have a shared planning time at the beginning of the year and had to ask several times before they were able to get coverage to plan 20 minutes once a week.

The teacher at Site 3 stated, "The planning is huge. You must plan for all of (the students) needs, for them to walk away having gotten something out of it." She shared that she met with the general education teacher once or twice a week to share student progress and to make sure her students were being exposed to all of the required material. The teachers at Sites 1 and 4 had a common forty-five minute planning period and met at least three times a week to discuss student progress and upcoming lessons. Both stated repeatedly that without the time to plan there would no way to meet the needs of all of the students.

At Site 2, the general education teacher felt that she and her partner were unable to differentiate as much as she wanted because they had little time to plan together. She stated,

> I was a little disappointed for the planning piece and my administrator did step up to the plate and allowed for us to plan together for 20 minutes on Mondays, which is better than nothing. So, I took that and ran with it. I would plan during the week for the next week and when we got together for those 20 minutes it would already be done and so she would add her part in and I would retype it and send it to her so it was a lot of wasted time. That is what I mean by counterproductive… The responsibility was not shared.

Collaboration- shared responsibility

In addition to planning together, the teachers at all sites discussed the importance of both the general education and special education teacher sharing responsibility for all of the students in the class. Observations at Sites 1 and 4 indicated that both teachers shared responsibility for all of the students in the room. The teachers rotated throughout the room working with all groups and answering the questions of all students. During instruction the teachers jumped in to clarify information the other teacher was presenting when it was clear there was a student struggling to understand a concept. In the interviews, the teachers at both of these sites stated they valued the support of their partners and felt that they were able to accomplish many things together that they would be unable to accomplish if there was only one of them in the room. The general education teacher at Site 1 stated,

> I think on a really fundamental level our relationship is a marriage… Because there are two people and you have so many kids in a fifth grade classroom, it is a sharing of the work load. With this program (the special education teacher) has taken some things on and I've taken some things on. It is just sharing. And when you've got a team that works well together, it works.

The special education teacher at Site 1 stated that she collaborated with the general education teacher on grades and divided up the work load for things such as checking papers. They also took turns reading stories in the new curriculum prior to presenting them to the class and developed units with feedback from each other. The teachers at Site 4 also divided up the grading of all students and took turns preparing materials for lessons. They shared information from trainings with each other and encouraged each other to provide the greatest opportunities for student learning as possible.

95

Even the teachers at Site 3, where instruction was provided primarily in the pull out setting, continued to communicate about the progress of all students and shared resources that would benefit students in both the general and special education classes. The special education teacher continued to help the general education teacher plan differentiate lessons for the students in the general education setting and provided guidance on appropriate modifications and accommodations. In return, the general education teacher shared content specific information with the special education teacher.

The teachers at Site 2 felt that the responsibility was not shared equally. During the observations, the special education teacher and student teacher worked only with the same groups throughout both lessons and the general education teacher worked with three groups. The special education teacher stated that the general education teacher required that she work with only the "lowest group". She was concerned because

> When you have so many needs and can only get six or seven in one group, you do want
>
> to work with the very lowest ones. But what about the medium group, where do they go?
>
> That was one of my challenges. I never got to work with the students in the "middle".
>
> The group I worked with… they just don't have that initiative, that self learning, the
>
> skills to do something by themselves while I am working with another group. So there
>
> are just not enough adults to go around when we are trying to differentiate reading
>
> instruction as in small groups.

Concerns noted by the general education teacher at that site included,

> (The special education teacher) couldn't even get in to enter grades so she didn't know
>
> her kids grades half the time because she would give them to me and I would plug them
>
> in and Grade Quick wasn't accessible for her. She can't access anything of mine. She

can't access my files because you have to sign the agreement you won't give out your password, so I can't give her my password so she can't get on….when it came time for grades and comments I had to do it and then go to her to see if she agreed with it or wanted to add something and then I would have to go back again and edit it. It was counterproductive.

The teachers at Sites 1, 3, or 4 did not mention an issue with the grading software used in the district.

Summary

The participants of this study were recommended by the administrators at the sites that met the criteria for this study as teachers who effectively differentiate instruction to meet the needs of students with disabilities served in an inclusive setting. The goal of this study was to analyze and identify successful instructional strategies used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive settings. Interviews and observations were conducted to determine what data teachers use in the planning of differentiated lessons and how they implement the lessons. All of the participants had attended a minimum of a one day training presented by their district and additional training provided by outside agencies. The teachers who attended trainings that were several days in length, such as Project CRISS and the Orton-Gillingham Multi-Sensory Strategies, were best able to describe how the trainings supported their instructional needs. The definitions of differentiated instruction given by all teachers incorporated interests, and instructional (readiness) levels. Three teachers mentioned learning profiles in their definition and only two mentioned content, process, or product. All teachers stated they had attended trainings on differentiated instruction, but only two teachers stated they had implemented what they learned.

97

Data from observation field notes and interviews was first coded into categories related to the components of differentiated instruction: readiness levels, interests, learning profiles, content, process, and product. I examined the interview responses regarding the data teachers use to plan differentiated lessons, how they use the data to plan differentiated lessons, and how they implemented the lessons. Based on the results of the interview, I found that the primary data used when planning instruction is data related to student readiness, followed by data related to the learning profiles of students, and then data related to student interest levels.

Field notes and responses from the Differentiated Instruction Classroom Observation Form (Appendix B) were used to examine the implementation of differentiated instruction on two occasions at each Site. The teachers at Site 4 received a rating of *Strong* (more than five examples observed) in differentiating instruction in all three areas: content; process; and product. The teachers at Site 1 received a rating of *Strong* in content and product and *Some* (five or fewer examples observed) in process; the teacher at Site 3 received a rating of *Strong* in content and process, and *Some* in product; and the teachers at Site 2 received a rating of *Some* in all three areas.

As the data related to these primary categories was analyzed, several themes emerged relating to the ingredients of successful collaboration between the general education teacher and special education teacher when differentiating instruction. The participants spoke at length about the importance of planning together and having a shared responsibility for working with all of the students in the class. The teachers that were able to plan together on a regular basis and were willing to support each other in all facets of assessment, planning, and implementation were the ones that produced an environment that best met the varying needs of all students. The results of

this study can be used to help guide teachers who are trying to determine what steps they need to

take to successfully implement differentiated instruction in their inclusive classrooms.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This multiple case study was developed to analyze and identify instructional strategies in reading used by fifth grade teachers to meet the needs of students with disabilities taught in inclusive settings. The seven participants of this study were recommended by administrators at four sites that met the criteria for this study as teachers who effectively differentiate instruction to meet the needs of students with disabilities served in an inclusive setting. Interviews and observations were conducted to determine what data teachers use in the planning of differentiated lessons and how they implement the lessons. The guiding research questions were as follows:

1. What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?

2. How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?

3. How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?

In this chapter, findings related to the research questions will be discussed along with themes related to collaboration that emerged from the data. Implications for central office personnel as well as school-based administrators and teachers are included. Finally, the limitations of this study and recommendations for future research are identified.

Conclusions

The Use of Data to Drive Instruction

Research Question 1: *What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?*

Prior to conducting the interviews, I met with instructional specialists in the district to determine possible data sources the teachers are able to access. The list formulated included: curriculum based assessments; results on the Direct Reading Assessment; previous report cards; results on the previous years' SOLs; standardized testing conducted as part of an eligibility for special education including educational, psychological, and sociological testing; Individual Education Plans; summary cards from the previous teacher that contain observations about the student's abilities and behaviors; observations; and information from parents and the students themselves. The teachers were not given the list to reduce the chance they may state they used sources they did not.

In the interviews, all participants shared they used data related to the readiness, interest levels, and learning profiles of their students when planning; however, the data related to readiness drove most of the decisions made when developing lessons. Readiness refers to a student's knowledge, understanding, and skill related to a particular sequence of learning. It is influenced by a student's cognitive proficiency as well as prior learning, life experiences, and attitudes toward school. Readiness can vary over time, and according to topic and circumstance (Tomlinson, 2003). The teachers at all four sites used results from standardized assessments such as the Direct Reading Assessment (DRA) to determine the appropriate instructional level for their students. They also reviewed information in the cumulative folder, including previous psychological and educational evaluations, student Individual Education Plans, and results from curriculum based assessments such as benchmark tests and spelling inventories. In their

interviews, none of the teachers mentioned that they used previous report cards, previous SOL scores, student interviews, or parent interviews to determine readiness levels. This was of interest because all teachers discussed how they struggled with meeting the varied readiness levels of students while exposing all students to the curriculum assessed by the SOLs. The teachers were focused on how the students would score on the current year's test, but did not mention if they had determined if the students passed the assessments the previous year.

All teachers stated they used observations to determine student interest. Increased interest leads to increased motivation, which is the set of reasons that determines to what extent a person will engage in a particular behavior (Tomlinson, 2000). The teachers at Sites 1 and 4 reported using parent and student interviews to assess interest levels and the teachers Sites 2 and 3 referred to summary cards from previous teachers. Only the teachers at Site 4 stated they used the IEPs to find information regarding student interests.

Learning Profile refers to the preferred mode of learning that can be affected by a number of factors including learning style and intelligence preference (Tomlinson, 2008). To determine student learning profiles, the teachers at all sites reported they used information found in eligibility testing for students with disabilities. At Site 1 the teachers did activities with the students so they could determine their multiple intelligences and the teachers at Site 4 had the guidance counselor do activities with students that highlighted various learning profiles. The special education teacher at Site 3 was the only teacher who reported using observations and information found in the Individualized Education Plans of her students to determine the learning profiles of her students.

Table 12 summarizes the data used by the teachers at each site to determine student

102

readiness levels, learning profiles, and interest levels. The Individual Education Plans were the

only type of data used by at least one teacher at all sites to determine all three areas. Previous

report cards and previous SOL scores were not mentioned by any teachers as a source of data to

determine any of the three areas and parent input was only accessed by teachers two sites to

determine student interests.

Table 12.

Summary of Data Used by Teachers at Each Site

Examples of Data to Access	Readiness	Learning Profiles	Interests
Curriculum based assessments	All Sites	None	None
Direct reading assessment	All Sites	None	None
Previous report cards	None	None	None
Previous SOL scores	None	None	None
Eligibility testing	All Sites	All sites	None
Individual education plans	All Sites	Site 3	Site 4
Summary cards from previous teacher	Sites 1, 2, 4	None	Sites 2, 3
Student interview	None	Sites 1,4	All Sites
Observations	None	Sites 3	All Sites
Parent interview	None	None	Sites 1, 4

Research Question 2: *How do fifth grade teachers use data to individualize instruction to meet the readiness levels, learning profiles, and interest levels of students with disabilities during reading instruction?*

Once the teachers accessed sources of data, three of the teams reported they used data

summary sheets to ensure they met the needs of all students when planning. These sheets were

also used to assist with the monitoring of student progress. Each team created their own data

summary format; there was not a recommended form approved by the district. The information gained from data related to readiness was used to determine which students may be in need of either remediation or more challenging instruction. IEP goals served as the starting point for instruction and DRA scores were used at all sites to monitor reading progress in fluency, decoding, and comprehension three times during the year. On a more frequent basis, curriculum based assessments were used to determine student progress. Reading groups were adjusted according to student needs. At Site 1, an example was given of a student who began the year in the lowest group and by the end of March was in the highest group. The teachers attributed her success to the small group instruction she received throughout the year that focused on her targeted areas of remediation. Novel study groups and the design of folder lessons were also dependent on data related to student readiness levels.

Once student interests were determined, the teachers at Sites 1, 3, and 4 reported they tried to provide students with reading material that would motivate them. If there was a required reading they would at least try to present the lessons in a manner that appealed to the students or give them the opportunity to produce a product that was motivating. All teachers did share that the curriculum constraints made it difficult to provide interesting materials as often as they would have likes. The teachers with the strongest collaborative relationships incorporated student interests into choosing novels and into planning folder activities more often than the teachers with weaker relationships. This was due to the fact they shared the responsibility for planning and had more time to create motivating lessons.

Learning profiles, which refers to the preferred mode of learning that can be affected by a number of factors including learning style and intelligence preference (Tomlinson, 2008), were incorporated into lesson plans. All teachers used a variety of instructional techniques when

presenting information to students. Visual cues were paired with oral instruction at all sites. Highlighters, sticky notes, Elmos, CD players, graphic organizers, and strategy cards were some of the many supports used in instruction. At three of the sites, the teachers stated they plan every lesson to incorporate a variety of modalities and use observations during instruction to determine if an increase in visual, tactile, or auditory techniques is needed to help a student understand a concept.

Research Question 3*: How do fifth grade teachers individualize the content, process, and product of a lesson to meet the needs of students with disabilities during reading instruction?*

The teachers that planned together and were able to discuss in detail how they accessed data related to student readiness, interest, and learning profiles were the ones that demonstrated the greatest amount of differentiated instruction in the classroom. The majority of differentiation observed was in content and product.

Content is what students need to learn or how they will get access to the information (Tomlinson, 2000). All teachers stated that they struggled with the challenge of exposing students performing below grade level to grade level material. As one teacher stated, "They all have to learn the same content. It is how you deliver it is the difference. It is just difficult when they do not have the foundational skills to move to a higher concept." Despite the fact that it was a challenge to them, the teachers at all sites provided students with materials designed to meet individual student readiness levels and each teacher presented information through both auditory and visual means. Small group instruction was used to re-teach or extend skills at Sites 1, 3, and 4. The teachers at Sites 1 and 4 who had a strong collaborative relationship explained that they were able to provide targeted small group instruction because they supported each other and were available to provide assistance to students in multiple groups.

Process is the activities in which the student engages in order to make sense of or master the content (Tomlinson, 2000). At each site there were folders for students that contained work on their readiness and interest levels. Tiered activities, student task lists, and manipulatives were also observed in all settings. The task lists were kept in folders or on clipboards and listed the overall goal for guided reading for all students and also what each individual student or group was to complete. Manipulatives observed included graphic organizers, place trackers, book markers that outlined reading strategies, and vocabulary cards.

One example of a tiered activity that required differentiated products was observed at Site 4. The goal was for all students to identify key components of a story. One group had to list the characters, setting, and write a sentence about the plot after reading the story orally with the teacher. Two groups were expected to write three sentences about two of the main characters, describe the setting, and outline the plot in detail after they read the story to themselves and then discussed it as a group. They could also draw a scene from the story or do a skit. A fourth group was expected to read the story to themselves compare the characters, setting, and plot from the story they were reading to a story they previously read. They could then work as a group to create a poster demonstrating the differences in the two stories. They teachers at this site stated they brainstormed together how to differentiate lessons and encouraged each other to stretch their imaginations as to what could be done.

Products, which are culminating projects that ask the student to rehearse, apply, and extend what he or she has learned (Tomlinson, 2000). The teachers at Sites 1 and 4 that planned together on a regular basis stated they brainstormed how to offer a menu of choices designed to both address student needs and to assess mastery of content knowledge. Student menu of choices for products were observed at all sites but there was no evidence that students created

their own assignments different from the ones on the menu. Students were observed working in groups and alone at all sites, depending on the task. The teachers at Sites 1, 2, and 4 used rubrics on projects to guide expectations for individual students. At Site 2 the general education teacher held the same expectation for all students; they had a choice of several products for many assignments, but they were expected to all meet the same basic requirements.

The Importance of Collaboration

The goal of this study was to analyze how fifth grade teachers individualize reading instruction to meet the needs of students with disabilities. Observations and interview questions were designed to examine the elements of differentiation. The information gained was important in understanding how the teachers designed and implemented differentiated instruction.   An unexpected finding was how important the role of collaboration is when differentiating instruction. The teachers that demonstrated the greatest amount of differentiated instruction had the strongest collaborative relationships. The teachers at Site 1 referred to their relationship as a marriage and the teachers at Site 4 stated that they were able to do things together to meet student needs that they would never be able to do on their own. They planned together, felt a shared responsibility for all students in the class, and as a result, provided a supportive learning environment for all students. Administrative support and a range of leveled instructional material were both components all participants stated is necessary to collaborate and differentiate successfully.

Implications for Educational Leaders

This study examined reading instruction in inclusive settings; however, the principles of inclusion and differentiation can be applied to all content areas. As schools develop more inclusive practices in response to the federal requirement to assess all students on state tests as

well as the requirement to serve students in the least restrictive environment, administrators and teachers must embrace the fact they need to organize schools, teaching, and learning so that each student obtains a learning experience that "fits." Schools need to ensure that each student receives the individual attention, learning accommodations, and supports that will result in meaningful learning on high standards of achievement.

Schools that have a truly inclusive model understand students come from a variety of backgrounds, and that they can no longer operate as if method of teaching will address most of the students' needs. In the inclusion model, teachers accept the pupil and adjust the classroom, curriculum, and instructional activities to meet the needs of the student through the differentiation of instruction (Tomlinson, 2003). Price, et al. (2001) found that inclusive schools allow teachers and schools to make sure each student is challenged to achieve to high standards in ways that fit what they already know, what they can already do, and how they learn best.

Administrators and teachers are increasingly concerned about how to meet the needs of students with varying learning profiles, readiness, and interest levels. A recommended way to meet these needs is by the general and special education working collaboratively to differentiate instruction. Collaborative teaching involves cooperation, effective communication, shared problem-solving, planning, and finding solutions in an effective way to include disabled students in the general education setting (Villa & Thousand, 2005). In order for collaboration to work within a system, all members of the district must understand the benefits and how to implement the practice.

Implications for Central Office Personnel

The teachers at Sites 1 and 4 referred several times to the fact that the district needed to embrace inclusion and collaborative models in all schools. The first step in promoting inclusion

and collaboration across all schools is to work with key stakeholders to build a common vision. According to Villa and Thousand (2000), the vision should be based on the assumptions that all children are capable of learning, all children have a right to an education with their peers in their community school, and the school system is responsible for attempting to address the unique needs of all children in the community. The mission and objectives of a district should also be reviewed to determine if it supports all students. By providing the stakeholders an opportunity to participate in the creation of a new mission, they take on ownership of the statement. The teachers with the strongest collaborative relationships stated they felt supported and encouraged by their administrators to succeed. These administrators are ones who have shown support for inclusion in various district meetings. They are seen as role models of administrators who believe each student has the ability to succeed.

All central office leaders need to solicit and listen to the concerns of everyone affected by the shift to an inclusive environment and then determine the resources that will be needed to address the concerns. The teachers in this study shared that they needed materials, shared planning time, and on-going professional development to successfully differentiate instruction to meet the needs of all students. These components require allocated funding if the teachers are to be successful.

Every teacher in this study reported they had attended trainings on differentiated instruction. The teachers that were best able to discuss how they implemented techniques from trainings were the ones that attended intensive trainings that were four or five days in length. These trainings provided the teachers opportunities to develop lessons, implement them, and then provided them with feedback on their implementation. The teachers that attended half day trainings stated they did not implement the majority of the techniques learned because they either did not have time or because they were not quite sure how to get started.

To meet the needs of the teachers, professional development should be on-going. The trainings should be designed by central office personnel to include an overall understanding of inclusive practices and their benefits, how to form collaborative relationships, and how to access data and then use it to differentiate instruction. Opportunities to examine successful practices should be provided. Even though they were viewed as successful collaborators by their administrators, three of the teachers in this study stated they would like to be able to observe other teachers modeling successful techniques. Every training should require teachers to implement something they learned in the training and submit a summary of what worked and what needed adjustment. The costs associated with these trainings would include the cost of developing and providing the trainings, reserving a space to hold the trainings, providing substitutes for the classroom teachers, and the cost of hiring and retaining staff capable of monitoring the progress of the teachers.

In addition to professional development, administrators must also make sure that they can provide the material resources required to successfully differentiate instruction. The cost of using technology, visual aides, and other accommodation materials must also be allocated in the budget. The teachers at Sites 1, 2, and 4 all stated that the comprehensive leveled reader libraries they received this year with the new language arts series finally allowed them the opportunity to design instruction to meet the readiness levels of individual students. In the past they could not differentiate as much because they were lacking in the materials.

Implications for School Based Personnel

Once a district-wide mission and vision have been created and administrators have had their concerns and questions addressed, the administrator must work with teacher leaders in the building to develop a plan of action for their site. Administrators should follow steps similar to

what is required of central office staff which includes inviting school stakeholders in the building and immediate community to review and adjust the school vision and mission as needed to reflect inclusive practices. Providing the staff with the rationale for inclusion and giving concrete examples of benefits to the entire school population are the first steps to getting them to accept the practice. Inviting teachers and students who have been successful in implementing an inclusive environment to share their stories is a powerful tool to begin the process. At two of the sites the teachers shared that they decided to work collaboratively after seeing other teachers in their buildings have success with the practice.

The teachers must believe in the benefits of inclusion, understand the steps needed to implement a successful program, and recognize there are different ways to collaborate successfully to differentiate instruction. Teachers also must be willing to evaluate their program frequently and change their procedures as needed. It is imperative that administrators believe in the benefits of the inclusion program within their school and monitor the program at each step, giving the teachers the support and resources they require to meet students' needs (Villa & Thousand; Tomlinson, 2003; Dieker, 2000). Administrators must be aware of the components of differentiation and what to look for in observations so they can recognize teachers who are successfully differentiating instruction and provide support to teachers who are struggling.

When planning for collaboration and differentiated instruction within a school, administrators must address the initiative with a positive attitude. As discussed previously, the teachers at Sites 1 and 4 stated several times that they were successful because of the support they received from their administrator. Administrators should get teachers involved and enthusiastic about the process to promote buy in. Team teachers should have similar philosophies toward collaboration and share their thoughts on issues such as fairness, grading, and behavior management to

111

determine if they are compatible; collaboration should not be forced (Dieker, 2000). The teachers at Sites 1 and 4 viewed their relationships as marriages and partnerships. They were excited to work together and had similar philosophies regarding their expectations of all students.

As schools begin to implement inclusive practices, the administration must undergo a self-assessment of the school's collaborative culture and implement techniques for fostering collaboration between general and special education staff (DuFour, 2003). At one site the teachers shared that even though they enjoyed working together in a collaborative model, there were other collaborative teachers in the building that were not as happy with the arrangement because they felt forced to work together.

It is the administrator's responsibility to cultivate a shared vision from the start and to ensure that each teacher's individual and the school's self-interest are served by both the process and the products of collaboration. Administrators need to determine the supports teachers and students require to be successful and provide those supports throughout the school year. They must also realize that each collaborative team may require different supports and not all teams will develop at the same rate.

Limitations

Transferability is the degree to which the results of qualitative research can be generalized or transferred to other contexts or settings (Trochim, 2006). Due to the fact the population for this study was not randomly selected and the fact that all observations and interviews occurred with fifth grade teachers of reading who have worked together for at least a year, the results of this study may not be generalizable to teachers of other grades or subjects to teams who are just beginning to work together.

Another limitation is that my assumptions and values served as an informed place from which to begin the study. The selection of data that fit the researcher's existing theory and the selection of data that "stand out" to the researcher are two important threats to the validity of qualitative conclusions. Both of these involve the subjectivity, or bias, of the observer (Maxwell, 2005). These biases are impossible to eliminate completely because they are built on the researcher's theories, beliefs, and perceptual "lens". During this study, I had to be aware of her perspective and try not to let it influence how data was interpreted. To reduce the effects of bias, a team of three researchers conducted the observations and peer checking was done throughout the analysis process.

Recommendations for Future Research

Recommendation 1.

Additional research is needed to investigate more in-depth how teachers in inclusive settings plan for differentiated instruction. In this study, teachers were asked to self-report how they used data and planned differentiated instruction. The teachers with the strongest collaborative relationships said they reviewed student data together and discussed each child prior to beginning the planning process. No lesson plans were reviewed. It would be valuable to observe teachers sorting through data at the beginning of the school year and determine how they use it to develop lessons to meet individual student needs. Additional observations of planning sessions throughout the year would allow the researcher to determine if the role of planning is truly a shared responsibility and to determine how each teacher contributes to the process.

Recommendation 2.

A study that applies the procedures from this research to another grade level or subject warrants consideration. This study focused only on teachers who teach fifth grade reading.

Repeating this research with teachers of other subjects or grade levels may provide a different level of options for differentiation and increase the generalizability of the findings. As students get older, the assumption is that they have the basic foundational skills to be successful. The curriculum becomes more strenuous each year and teachers may find they have less time to differentiate due to the amount and complexity of information they need to cover. It would be beneficial to interview and observe teachers who have been successful teaching students with disabilities in more advanced core content areas to determine how they use data to drive instruction.

Recommendation 3.

There is limited research linking the effectiveness of differentiated instruction with student achievement. A longitudinal study of student DRA scores in schools where teachers have received training on differentiated instruction and are monitored by administrators who understand the required steps for of differentiation would contribute to the body of literature related to the effectiveness of differentiation. This study would have to take place over an extended period of time in non-transient schools with similar demographics. The results of the achievement gained in reading three years for students with learning disabilities in the school where teachers have received on-going professional development and administrative support for differentiating instruction would be compared to achievement of students with learning disabilities in the school where teachers have not received on-going professional development or administrative support in differentiation.

Summary

In this study, a qualitative case study method was used to analyze and identify instructional strategies in reading used by seven fifth grade teachers to meet the needs of students with

114

disabilities taught in inclusive settings. Semi-structured interviews were used to gain information about how teachers use data related to student readiness, interests, and learning profiles to design differentiated instruction. Observations were used to gain information about how the teachers implemented differentiated content, process, and products in the classroom.

The literature review revealed that more schools are becoming inclusive environments for students with disabilities due in part to several federal laws. The No Child Left Behind Act of 2001 mandates that 95% of all students will reach state standards in reading and math by 2014 and the Individuals with Disabilities Improvement Act of 2004 requires students with disabilities be educated in the least restrictive environment with children who are not disabled. Differentiating instruction is one way teachers in inclusive schools are trying to meet the needs of all learners.

Most of the research regarding differentiation has been related to teacher performance and perceptions (Johnsen, 2003; McAdamis, 2001; Tomlinson et al., 2008). The process of adjusting instruction to meet learner readiness needs, learning profiles, or interest levels has proven to have a positive impact on student achievement levels (Cronbach & Snow, 1977; Kornhaber et al., 2004; Renninger et al., 1991; Sternberg, 1999; Tomlinson, 2003). Altering the content, process, product, or environment to meet the needs of individual learners has also proven to increase the opportunities for students to be successful in the classroom (Tomlinson, 1999). However, there is limited research on the impact of combining all of these components into the framework of differentiation on achievement levels. There is also limited research on how teachers actually implement differentiated lessons.

This study allowed me to add several key points to the body of knowledge regarding differentiation. First, student readiness was the key component teachers addressed in planning

115

lessons. All of the participants in this study struggled with how to teach students with varying readiness levels the required curriculum. Curriculum based and standardized assessments were used along with eligibility test results, information in the IEP, and information from previous teachers. Interest levels and learning profiles were determined primarily through classroom observations though IEPs, summary cards, and parent and student interviews were also used by several teachers. Information regarding SOL results in previous years and previous report cards were not mentioned as a source of data used when planning instruction.

The results of this study also found that the teachers that demonstrated the greatest amount of differentiated instruction had the strongest collaborative relationships. These were the teachers that described their relationship as a partnership. They planned together, felt a shared responsibility for all students in the class, and as a result, provided a supportive learning environment. Their lesson plans indicated who was responsible for planning certain lessons and how those lessons met the needs of various student needs. During instruction these teachers worked with all students and presented the material in a variety of ways. They felt comfortable interrupting each other to add information that may help students and modeled appropriate interactions for the students.

While further research is needed to determine if a model of differentiated instruction has a positive impact on overall student achievement, this study does indicate that teachers can work collaboratively to meet the diverse needs of all students in a classroom. As the number of students with disabilities served in the general education classroom increases, it will be important for educational leaders to understand how to develop an inclusive school environment in which teachers understand how to collaborate effectively to differentiate instruction. Shared planning time, administrative support, appropriate materials, and on-going professional development for

teachers are the key ingredients that collaborative teams require to be successful with differentiating instruction.

List of References

Anderson, P., & Adams, P. (2001). The relationship of five-year-olds' academic readiness and perceptions of competence and acceptance. *Journal of Educational Research*, 79(21), 114-118.

Bauwens, J., & Hourcade, J. (1997). Cooperative teaching: pictures of possibilities. *Intervention in School and Clinic,* 33(2), 81-85.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544-559.

Bogdan, R. C., & Biklen, S. K. (2003). Qualitative Research for Education: An introduction to theories and methods (4th ed.). New York: Pearson Education.

Bradley, D. F., King-Sears, M. E., & Tessier-Switlick, D. M. (1997). Teaching students in inclusive settings. Boston: Allyn & Bacon.

Broderick, A., Mehta-Parekh, H., & Reid, D. K. (2005). Differentiating instruction for disabled students in inclusive classrooms. *Theory into Practice*, 44(3), 194-202.

Bruner, J. (1966). Toward a Theory of Instruction. Cambridge, MA: Harvard University Press.

Cole, C., Waldron, N., & Majd, M. (2004). Academic progress of students across inclusive and traditional settings. *Mental Retardation*, 42(2), 136-144.

Corley, M. (2005). Differentiated instruction: Adjusting to the needs of all learners. *Focus on Basics: Connecting Research and Practice,* 7(C), 13-16.

Creswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.). Thousand Oaks, CA: Sage Publications.

Crockett, J. B., & Kauffman, J. M. (1999). The least restrictive environment: its origins and interpretations in special education. Mahwah, NJ: Lawrence Erlbaum Associates.

Cronbach, L. & Snow, R. (1977). Aptitudes and instructional methods: A handbook for research on interactions. New York: Irvington.

Dieker, L. (2000). Cooperative teaching. *Special Connections*. Retrieved April 11, 2009, from http://www.specialconnections.ku.edu.

Dunn, R., & Dunn, K. (1993). Teaching secondary students through their individual learning styles: Practical approaches for grades 7-12. Boston: Allyn & Bacon.

Fountas, I. C., & Pinnell, G. S. (1996). Guided reading: Good first teaching for all children. New Hampshire: Heinemann Publishers.

Fulk, B., & Montgomery-Grymes, D. (1994). Strategies to improve student motivation. *Intervention in School & Clinic*, 30(1), 28-36

Gardner, H. (1983). Frames of the Mind: The theory of multiple intelligences. New York: Basic Books.

Hall, T., Strangman, N., & Meyer, A. (2003). Differentiated instruction and implications for UDL implementation. Wakefield, MA: National Center on Accessing the General Curriculum.

Hart, C. (1998). *Doing a literature review*. Thousand Oaks, CA: Sage Publications.

Heacox, D. (2002). Differentiating instruction "in the regular" classroom: How to reach and teach all learners, grades 3-12. Minneapolis, MN: Free Spirit Publishing, Inc.

Hocutt, A. (1996). Effectiveness of special-education: Is placement the critical factor? *Future of Children*, 6 (1), 77-102.

Johnsen, S. (2003). Adapting instruction with heterogeneous groups. *Gifted Child Today*, 26(3), 5-6.

Katims, D. & Harris, S. (1997). Improving the reading comprehension of middle school students in inclusive classrooms, *Journal of Adolescent and Adult Literacy*, 41 (2)2, 116-126.

Keller, J. M. (1987). Development and use of the ARCS model of motivational design. *Journal of Instructional Development*, 10(3), 2-10.

Klinger, J., Vaughn, S., Hughes, M., & Arguelles, M (1999). Sustaining research-based practices in reading: a 3-year follow-up. *Remedial and Special Education*, 20 (5), 263-74.

Knoster, T., Villa, R., Thousand, J. (2000) A framework for thinking about systems change. In R. Villa & J. Thousand (Eds.), *Restructuring for caring and effective education: Piecing the puzzle together* (2nd ed.), (pp. 93-128). Baltimore: Paul H. Brookes.

Kornhaber, M.L., Fierros, E.G., & Veenema, S.A. (2004). Multiple intelligences: Best ideas from research and practice. Boston, MA: Allyn & Bacon.

Laurence-Brown, D. (2004). Differentiated instruction: Inclusive strategies for standards-based learning that benefit the whole class. *American Secondary Education*, 32 (3), 34-62.

Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry*. Beverly Hills, California: Sage.

Marshall, C., & Rossman, G. (2006). Designing Qualitative Research, (4th ed.). Thousand Oaks, CA: Sage.

Martin, E., Martin, R., & Terman, D. (1996). The legislative and litigation history of special education. *The Future of Children*, 6(3), 25-39.

Maxwell, J. (2005). Qualitative research design: an interactive approach (2nd ed.). Thousand Oaks, CA: Sage.

McAdamis, S. (2001). Teachers tailor their instruction to meet a variety of student needs. *Journal of Staff Development*, 22(2), 1-5.

McGill-Franzen, A., Zmach, C., Solic, K., & Zeig, J.L. (2006). The confluence of two policy mandates: core reading programs and third grade retention in Florida. *Elementary School Journal*, 107 (1) 67-91.

McMillan, J. H. (2004). Educational research: fundamentals for the consumer (4th ed.). Boston, MA: Pearson.

McMillan, J., & Schumacher, S. (1989). Research in education: A conceptual introduction. Illinois: Scott, Foresman, and Company, p.182.

Melis, E., and Monthienvichienchai, R. (2004). They call it learning but it's so much more. *Proceedings of the World Conference on E-Learning in Corporate Government Healthcare and Higher Education*.

Merriam, S. B. (1988). Case study research in education: A qualitative approach. San Francisco: Jossey-Bass.

Merriam, S. B., & Simpson, E. L. (2000). A guide to research for educators and trainers of adults. (Second [Updated] Ed.). Malabar, FL: Krieger Publishing Company.

Merrill, M.D. (1983). Component Display Theory. In C.M Reigluth (Ed.) Instructional design theories and model: An overview of their current status. Hillsdale NJ: Lawrence Erlbaum Associates.

Moody, S. and Vaughn, S. (1997). Instructional grouping for reading. Remedial and special education. 18(6), 347-257.

Morse, J. M., & Field, P. A.. (1995). Qualitative research methods for health professionals (2nd ed.). Thousand Oaks, CA: Sage.

Norlund, M. (2003). Differentiated instruction: meeting the educational needs of all students in your classroom. Lanham, MD: Scarecrow Press, Inc.

Padgett, D. K. (2008). Qualitative methods is social work research. CA: Sage.

Price, Mayfield, McFadden, & Marsh (2000). The change from Isolation to collaboration. In collaborative teaching: Special education for inclusive classrooms, (pp. 1-32). New York: Parrot Publishing.

Rea, P., McLauglin, V., & Walther-Thomas, C. (2002). Outcomes for students with learning disabilities in inclusive and pullout programs. *Exceptional Children*, 68 (2), 203-223.

Renninger, A., Hidi, S., & Krapp, A. (1991). The role of interest in learning and development. Lawrence Erlbaum Associates: New York.

Ripley, S. (1997). Collaboration between general and special education teachers. District of Columbia, US: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED409317).

Rossman, G. B., & Rallis, S. F. (2003). Learning in the field: An introduction to qualitative Research (2nd ed.). Thousand Oaks, CA: Sage.

Scruggs, T., & Mastropieri, M., (1995). What makes special education special? Evaluating inclusion programs with the pass variables. *The Journal of Special Education*, 29(2), 224-233.

Seidman, I. (2006). Interviewing as qualitative research: a guide for researchers in education and the social sciences (3rd ed.). New York City, NY: Teachers College Press.

Sharp, M.N. and Hawes, M.E. (2003). Examining Current Challenges in secondary education and transition. *National Center on Secondary Education and Transition, 2*(1).

Sherman, W. (2007). Differentiated instruction: A review of the literature. Metropolitan Educational Research Consortium (MERC).

Smagorinsky, P. (1995). The social construction of data: Methodological problems of investigating learning in the zone of proximal development. *Review of Educational Research*, 65(3), 191-212.

Snow, R.E. (1991). Aptitude-treatment interaction as a framework for research on individual differences in psychotherapy. *Journal of Consulting and Clinical Psychology*, 59, 205-216.

Sternberg, R.J. (1996). *Successful Intelligence*. New York: Simon & Schuster.

Sternberg, R., Torff, B., & Grigorenko, E. (1998, September). Teaching triarchically improves school achievement. *Journal of Educational Psychology*, 90(3), 374-384. Retrieved November 30, 2008, doi:10.1037/0022-0663.90.3.374

Sternberg, R. J., & Grigorenko, E. L. (2004). Successful intelligence in the classroom. *Theory Into Practice*, 43 (4), 274-280.

Sticht, T., & James, J. (1984). Listening and reading. In: P. Pearson (Ed.) Handbook of Research on Reading. New York: Longmans.

Subban, P. (2006). Differentiated instruction: A research basis. *International Education Journal*, 7 (7), 935-947.

Swanson, E. (2008). Observing reading instruction for students with learning disabilities: a synthesis. *Learning Disability Quarterly*, 31(3), 115-133.

Tashakkori, A., & Teddlie, C. B. (2003) Handbook of mixed methods in the social and behavioral research. Thousand Oaks, CA: Sage.

Teijlingen, E. V., & Hundley, V. (2001). The importance of pilot studies. *Social Research Update*, 35(4), 1-4.

Tilton, L. (1996). Inclusion: A Fresh Look. Minnesota: Covington Cove.

Tomlinson, C. (1999). The differentiated classroom: Responding to the needs of all learners. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. (2000). Differentiation: Can it work? Education Digest 65(5), 25-31.

Tomlinson, C. (2001). How to differentiate instruction in mixed-ability classrooms (2nd ed). Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. (2003). Differentiating instruction for academic diversity. In J.M. Cooper (Ed), Classroom teaching skills, 7th ed (p 149-180). Boston: Houghton Mifflin.

Tomlinson, C., Brimijoin, K., & Narvaez, L. (2008). The differentiated school. Alexandria: Association for Supervision and Curriculum Development.

Tomlinson, C. A., & Eidson, C. C. (2003). Differentiation in practice: A resource guide for differentiating curriculum. Alexandria, VA: Association for Supervision and Curriculum Development.

U.S. Department of Education (2007). Office of Special Education Programs, Data Analysis
    System (DANS), OMB #1820-0043: Children with disabilities receiving special
    Education under Part B of the individuals with disabilities education act

U.S. Department of Education (2008). IDEA: Building the legacy of IDEA 2004. Retrieved
    online November 11, 2008 from: http://idea.ed.gov/

U.S. Department of Education (2008). NCLB and Other Elementary/Secondary Policy
    Documents. Retrieved online December 1, 2008 from:
    http://www.ed.gov/policy/elsec/guid/states/index.html.

Valentino, A. (2006). The individuals with disabilities education improvement act: Changing
    what constitutes an "appropriate" education. *Journal of Law and Health*. 20(1), 139-177.

Wellar, K. (1999). Multiple intelligences - An interview with howard gardner. *Special Needs
    Issues*. Retrieved online November 28, 2008
    http://www.suite101.com/article.cfm/special_needs/20878

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

APPENDIX A

RESEARCH SUBJECT INFORMATION AND CONSENT FORM

TITLE: AN ANALYSIS OF SPECIALIZED READING INSTRUCTION FOR FIFTH GRADE STUDENTS WITH DISABILITIES SERVED IN INCLUSIVE ELEMENTARY CLASSROOMS

VCU IRB NO.: HM12167

This consent form may contain words that you do not understand. Please ask the study staff to explain any words that you do not clearly understand. You may take home an unsigned copy of this consent form to think about or discuss with family or friends before making your decision.

PURPOSE OF THE STUDY
The purpose of the study is to determine whether schools that have less than a ten percent gap between pass rates of students with disabilities and students without disabilities on fifth grade Standards of Learning Reading tests have in fact implemented specialized instruction designed to meet individual learner needs.

You are being asked to participate in this study because you are a collaborative teacher of Reading in an elementary school that meets the criterion of a gap of less than ten percent gap between pass rates of students with disabilities and students without disabilities on fifth grade Standards of Learning Reading tests and a pass rate of greater than 88% on the fifth grade reading Standards of Learning tests.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT
If you decide to be in this research study, you will be asked to sign this consent form after you have had all your questions answered and understand what will happen to you.

In this study you will be asked to allow two observations of your collaborative reading class. Each observation will last approximately 90 minutes. Two observers will conduct the observations using an observation checklist. In addition to the observations, you will be asked to participate in an interview session lasting approximately 45 minutes. You will be interviewed individually and then with your collaborative partner. One interviewer will conduct the session. In the interview you will be asked to discuss how you plan for student instruction. The interview will be tape recorded to ensure accuracy for later analysis, but no names will be recorded on the tape. Your name will not appear on any observations or on the interview transcripts.

Significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

RISKS AND DISCOMFORTS

You do not have to answer any interview questions you do not want to talk about, and you may refuse to participate at any time.

BENEFITS TO YOU AND OTHERS
You may not get any direct benefit from this study, but, the information we learn in this study may help us design better staff development and appropriate modes of support for teachers and schools.

COSTS
There are no costs for participating in this study other than the time you will spend in the interview session.

CONFIDENTIALITY

Potentially identifiable information about you will consist of observation checklists and notes, interview notes, recordings and any documents such as lesson plans that you choose to share. Data is being collected only for research purposes. Your data will be identified by randomly assigned ID numbers and records will be maintained in a locked file cabinet. All personal identifying information will be kept in password protected files and these files will be deleted one year after completion of the research. Other records such as observation checklists and interview notes and recordings will be kept in a locked file cabinet for one year after the study ends and will be destroyed at that time. Access to all data will be limited to study personnel. A data and safety monitoring plan is established.

We will not tell anyone the answers you give us; however, information from the study and information and the consent form signed by you may be looked at or copied for research or legal purposes by Virginia Commonwealth University.

What we find from this study may be presented at meetings or published in papers, but your name will not ever be used in these presentations or papers.

The interview sessions will be audio taped, but no names will be recorded. At the beginning of the session, all members will be asked to use initials only so that no names are recorded. The tapes and the notes will be stored in a locked cabinet. After the information from the tapes is transcribed, the tapes will be destroyed.

VOLUNTARY PARTICIPATION AND WITHDRAWAL

You do not have to participate in this study. If you choose to participate, you may stop at any time without any penalty. You may also choose not to answer particular questions that are asked in the study.

Your participation in this study may be stopped at any time by the study staff without your consent. The reasons might include:
- the study staff thinks it necessary for your health or safety;

- administrative reasons require your withdrawal.

QUESTIONS

In the future, you may have questions about your participation in this study. If you have any questions, complaints, or concerns about the research, contact:

> *Dr. Whitney Sherman, Assistant Professor*
> *School of Education*
> *Virginia Commonwealth University*
> *1015 West Main Street*
> *P.O. Box 842020*
> *Richmond, Virginia 23284-2020*
> *Telephone: 804-828-8724*

If you have any questions about your rights as a participant in this study, you may contact:

> *Office for Research*
> *Virginia Commonwealth University*
> *800 East Leigh Street, Suite 113*
> *P.O. Box 980568*
> *Richmond, VA 23298*
> *Telephone: 804-827-2157*

You may also contact this number for general questions, concerns or complaints about the research. Please call this number if you cannot reach the research team or wish to talk to someone else. Additional information about participation in research studies can be found at http://www.research.vcu.edu/irb/volunteers.htm.

CONSENT

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I am willing to participate in this study. I will receive a copy of the consent form once I have agreed to participate.

_____

Participant name printed   Participant signature   Date

_____

Name of Person Conducting Informed Consent
Discussion / Witness
(Printed)

_____ _____

Signature of Person Conducting Informed Consent   Date
Discussion / Witness

_____ _____

Principal Investigator Signature (if different from above)   Date

APPENDIX B

DIFFERENTIATED INSTRUCTION *CLASSROOM OBSERVATION FORM*

PREPARATION FOR AND RESPONSE TO LEARNER NEEDS	**Strong**	**Some**	**None**
1. Showed proactive preparation for a variety of student needs.			
2. Attended appropriately to students who struggle with learning (LD, ELL, reading etc.)			
3. Attended appropriately to students with physical/behavioral challenges.			
4. Attended appropriately to advanced students.			
Comments:			

INSTRUCTIONAL PRACTICES AND CLASSROOM ROUTINES	**Strong**	**Some**	**None**
1. Varied student groupings: individual, pairs, small groups.			
2. Used multiple modes of instruction, with emphasis on active learning.			
3. Made flexible use of classroom space, time, materials.			
4. Communicated clear directions for multiple tasks.			
5. Provided effective rules/routines that supported individual needs.			
6. Emphasis on completion against self, against self, not other students.			
Comments:			

EVIDENCE OF DIFFERENTIATION	**Strong**	**Some**	**one**
1. Content: e.g. materials of varied readability and/or interest, multiple ways to access ideas/information; etc.			
2. Process: e.g. tiering; contracts; compacting; readiness-based small group instruction; different homework; choices about how to work (alone, pair, small group); tasks in multiple modes; variety of scaffolding; etc.			
3. Products: e.g. product assignments with multiple modes of expression; with choices about how to work (alone, pairs, small groups); opportunity to connect learning with individual interests; variety of assessment tasks; variety of scaffolding; etc.			
Comments:			

Interview Guide

Framework Questions

1.   What is your definition of differentiated instruction?

2.   What do you think is important for you to know about students when planning lessons?

3.   Have you attended any trainings on differentiated instruction? If so, which ones?

Assessment: What data do teachers use to design appropriate specialized instruction to meet the individualized needs of fifth grade students with disabilities in reading?

4.   Describe the data you use to assesses student readiness levels? How do you gain
         access to the information?

5.   Do you have access to data that assesses student interests? If so, what?

6.   Do you have access to data that assesses student learning profiles? If so, what?

7.   Which data do you use to drive instruction: data gained prior to instruction, data
        gained during instruction, and/or data from culminating assessments?

Planning: How is data used to differentiate reading instruction for students with disabilities?

8.   How do you use data to meet the needs of varying readiness levels of students with
        disabilities during reading instruction?
9.   How do you use data to meet the needs of varying   interest levels of students with
        disabilities during reading instruction?
10.   How do you use data to meet the needs of the varying learning profiles of students with
        disabilities during reading instruction?

Implementation: How do teachers differentiate reading instruction for students with disabilities?

11.   Carol Ann Tomlinson's definition of **content** as related to differentiated instruction is
        what the student needs to learn or how the student will get access to the information.
        Based on this definition, do you differentiate the content of your lessons in reading to meet
        the needs of students with disabilities? If so, how?

12. Carol Ann Tomlinson's definition of **process** as related to differentiated instruction is the activities in which the student engages in order to make sense of or master the content. Based on this definition, do you differentiate the process of your lessons in reading to meet the needs of students with disabilities? If so, how?

13. Carol Ann Tomlinson's definition of **product** a related to differentiated instruction are the culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit. Based on this definition, do you differentiate the required products of your lessons in reading to meet the needs of students with disabilities? If so, how?

Summary Question:
14. Do you have anything else you would like to share regarding the instructional practices and routines in reading you use to meet the varying individualized needs of students with disabilities?

APPENDIX D

Table of Specifications for Observations

	Question 1 Assessment	Question 2 Planning	Question 3 Implementation
Readiness	4	7	
Interest	5	8	
Learning Profile	6	9	
Content			11
Process			13

Vita

Elizabeth D. Dragone was born in Norfolk, Virginia. She graduated from Frank W. Cox High School in Virginia Beach, Virginia in 1987. Ms. Dragone received her Bachelor of Science in Psychology from Old Dominion University, Norfolk, VA in 1992 and a Master of Science in Education from Old Dominion University, Norfolk, VA in 1993. In 2001, she received a Post Masters Certificate in Supervision and Administration from Virginia Commonwealth University, Richmond, VA. Ms. Dragone is a National Board Certified Teacher and a National Certified Educational Diagnostician.

Ms. Dragone has been an employee of Chesterfield County Public Schools since 1995. She is currently an Instructional Specialist in the Exceptional Education Department. Prior to this position, she was a teacher of students with emotional and learning disabilities, an educational diagnostician, and an exceptional education liaison in Chesterfield County Public Schools. Ms. Dragone was a teacher of students with emotional disabilities at a private school in the Richmond area before transferring to Chesterfield County Public Schools.