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Response to Intervention Framework and Progress Monitoring Process:

K-3 Regular Education Teachers' Perceptions

A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education in Educational Leadership

by

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May 2013

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Keywords: Response to Intervention, Progress Monitoring, Teacher Perceptions

ABSTRACT

Response to Intervention Framework and Progress Monitoring Process:

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by

Jarrold G. Adams

The purpose of this quantitative study was to investigate the perceptions regular education teachers have of the Response to Intervention framework and the Progress Monitoring Process. Participants of the study included 246 K-3 regular education teachers from 4 Northeast Tennessee school systems. The survey achieved a 42% return rate for a total of 104 participants. Specifically, this research assessed K-3 regular education teachers' perceptions of the RTI framework as a whole, their perceptions of the progress monitoring process, their perceptions of their readiness to implement an RTI framework, their perceptions of the effectiveness of the professional development opportunities they had been provided by their school systems regarding RTI, and their perceptions of the effectiveness of RTI on the academic growth of their at-risk students. The data sources analyzed consisted of a survey design using a 5-point Likert scale. Each research question had a corresponding null hypothesis. Each research question was analyzed with a series of one-tailed single sample *t*-tests with mid-point of the scale (3.0) as the test value representing neutrality. All data were analyzed at the .05 level of significance. Findings indicated that participants' overall perceptions of the RTI framework were significantly positive.

DEDICATION

This work is dedicated to my family. You gave me the encouragement and time needed to see this study to fruition. Specifically to my children Braden, Devon, and Colton, I hope the example I have modeled in terms of hard work and perseverance gives you the hope, the belief, and the fortitude to do whatever you want to in your own lives.

ACKNOWLEDGEMENTS

I would like to acknowledge the many people who have supported me in the completion of this dissertation process. To Dr. Susan Belcher, who started me on this path many years ago. You gave me the chance to work as one of your teachers and then took me under your wing to mentor me in the ways of administration. From a not so subtle push to get my master's degree to helping me realize that a doctoral degree was also within my reach, your support and guidance will always be remembered and extremely appreciated.

I would also like to thank the members of my dissertation committee: Dr. Bill Flora for his words of encouragement and belief in me and my endeavor, Dr. Don Good for his insight into what I really wanted to know and how to get my answers, Dr. Virginia Foley for the wisdom to tell me to be succinct and get to the point, and to Dr. Kim Hale, who knows more about my topic than anyone else, including me, for being my sounding board and always pushing me to go further.

Finally, I would like to thank three members of my ELPA cohort who were with me at the beginning and are here with me at the end as well. Chris Bogart, Mindy Myers, Hannah Reeder, and I started this journey together many years ago. We supported each other as we traveled as one through all the courses of the doctoral program. Your help and willingness to share what you know, what you have done, and your thoughts on what we are doing were immensely beneficial as I found my own way. Thank you all for being there.

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CHAPTER 1

INTRODUCTION

The reauthorization of the Individuals with Disabilities Education Act (IDEA) in December 2004 provided states a new option in the determination of learning disabilities (LD) referred to as Response To Intervention (RTI). The IDEA reauthorization afforded school systems the option to measure a student's response to scientific, research-based interventions as a method of determining the presence of an LD (Palenchar & Boyer, 2008). This new option was borne from the intent of the No Child Left Behind (NCLB) Act of 2001. The goal of NCLB was to encourage school systems to improve instruction in regular education classrooms and increase every student's academic gains across racial, ethnic, linguistic, and socioeconomic lines. Before the passage of NCLB and the reauthorization of IDEA, school systems used an IQ-discrepancy model to determine the presence of an LD in students. This IQ-discrepancy model involves administering a student an IQ test and an academic achievement test, then comparing the generated scores to determine if there is a large enough discrepancy between what the student should be able to do (IQ) and what the student is actually achieving (academic achievement). If the discrepancy is large enough (usually a 16 point difference) the student is said to have an LD in the area where the discrepancy lies.

The IQ-Discrepancy model has long been criticized as a poor procedure for the identification of learning disabilities. Stakeholders have identified serious problems with the traditional IQ-discrepancy model, such as the lack of statistical reliability and validity in making eligibility decisions (Skofronick, 2006). The strongest criticisms of the discrepancy model relate to its role in the increase of students made eligible for special education services, its inability to

identify reading deficits in younger students, and its failure to help teachers make informed instructional decisions (McKenzie, 2009).

Beyond the technical issues with the IQ-discrepancy model, the fact that regular education classroom teachers were not a part of the identification process beyond referring a struggling student for special education services proved problematic (Shinn, 2007). No direct correlations were documented between the data collected in regular classrooms and the prereferral interventions implemented by those regular education teachers before referring the student for special education services. Turnbull (2008) summarized the IQ-discrepancy model by noting that regular education teachers waited for the testing to simply document a difference between ability and achievement, resulting in the assessed student being labeled as learning disabled. Regular education teachers were not required to search for a correlation between ineffective teaching and lack of student progress. There only needed to be a discrepancy between student ability as measured by an IQ test and student performance as measured by an achievement test.

In response to these criticisms, NCLB referenced numerous reports documenting the consensus suggestion that major changes in the federal rules and regulations detailing the identification of LD were needed. These reports recommended abandoning the IQ-discrepancy model and the use of IQ tests for special education identification and recommended the incorporation of an RTI framework as one of the identification criteria (Fletcher, 2004). The responsibility for special education eligibility shifted from special education teachers to regular education teachers. RTI provides regular education teachers a framework for the definition and identification of student academic and behavioral issues while also providing intervention

strategies to resolve those issues (Brown-Chidsey & Steege, 2010). The use of an RTI framework holds regular education teachers accountable for instructional and assessment data.

The inclusion of RTI framework procedures for special education eligibility purposes was recommended to state departments of education in the reauthorization of IDEA. As IDEA was passed by Congress in 2004, state departments of education were faced with realigning state laws and regulations to mirror the changes in the process of identifying LDs. The shift in identification procedures created considerable repercussions for school districts. While the concept of an RTI framework was proposed in the IDEA reauthorization, the implementation of an RTI framework has moved beyond the arena of special education to having considerable repercussions for regular education teachers (Kavale, Kauffman, Bachmeier, & LeFever, 2008).

Even though the concept of the RTI framework was introduced through special education and school psychology literature, regular education is where the RTI framework is meant to be implemented (Kovaleski, 2007). LD identification models using an RTI framework require regular education teachers to intervene as early as possible and then, if appropriate, refer struggling students for more formal evaluations or other services. Kavale et al. (2008) noted a joint paper by the National Association of State Directors of Special Education and the Council of Administrators of Special Education that discussed the objective of implementing an RTI framework is to provide regular education teachers with the knowledge and resources to understand the concept of using progress-monitoring data to make informed instructional decisions to teach every student.

With new disability standards in place for the identification of students with learning disabilities, schools are now establishing practices within an RTI framework. This RTI framework requires regular education teachers to use progress-monitoring data to target students

who are not performing satisfactorily and to track their academic growth during various research-based instructional interventions (Stecker, Lembke, & Foegan, 2008). Stuart, Rinaldi, and Higgins-Averill (2011) noted:

The core features of an RTI framework may be grouped under three essential aims: 1) the provision of scientific, research-based instruction and interventions in general education; 2) monitoring and measurement of student progress in response to the instruction and interventions; and 3) use of these measures of student progress to shape instruction and make educational decisions. (pp. 55-56)

The implementation of an RTI framework necessitates a shift in the focus of regular education teachers from referring students for special education services to providing and documenting effective instruction for every student in the regular education program.

Both NCLB and IDEA directly discuss closing the achievement gaps that exist in education. This gap closure relies upon regular education teachers using research-based instruction and intervention of the highest quality while simultaneously holding school systems and each individual school accountable for all students making progress toward grade level standards (Stuart et al., 2011). Effective instruction and documentation of student progress in the regular education classroom requires regular education teachers to monitor progress of student learning through the use of assessments then tailoring instruction based on those assessment results. This is the essence of the RTI framework that Reutebuch (2008) described as “the practice of frequent progress monitoring and use of data to make educational decisions about instructional and grouping practices as well as the duration, frequency, and amount of time allotted for interventions” (p. 126). Buzhardt et al. (2010) compiled a list of key ingredients to improving outcomes for students with an LD:

a) identifying children at risk for a disability early, b) choosing research based interventions individualized for each child's specific needs, c) monitoring progress of children's response to the intervention frequently, and d) using progress monitoring data to inform data based intervention decision making so that adjustments can be made for children who are not showing improvement. (p. 201)

Through an RTI framework, regular education teachers are expected to systematically rule out a lack of basic instruction in the regular education classroom as an explanation for low student performance, implement a research-based effective intervention program to measure the amount of progress in the student's academic area of weakness, and then use information from a student's cumulative intervention history to make eligibility decisions (Daly, Martens, Barnett, Witt, & Olson, (2007).

In addition to schools' use of an RTI framework to eliminate lack of research-based instruction in the regular education classroom as a potential cause for children's persistent academic difficulties and to determine the presence of specific learning disabilities, many schools are moving toward large scale implementation of RTI frameworks with periodic screening of all students in regular education classrooms and more frequent progress monitoring for targeted learners (Stecker et al., 2008). While the implementation of an RTI framework may decrease the overall number of students identified as LD, this should not be the overarching goal of the RTI framework. While the RTI framework helps ensure appropriate learning experiences and early intervention, identification of LD should also include a student-centered, comprehensive evaluation that ensures students who have a learning disability are accurately identified (Johnson, Mellard, Fuchs, & McKnight, 2006). Schools must be able to use proven differentiated instructional strategies and regular education teachers must be trained to measure

student performance using research-based methods that demonstrate student progress (Stuart et al., 2011). The method used by regular education teachers to collect student progress-monitoring data must include the evaluation of the level of performance and the rate of student improvement.

Problem Statement

Tennessee has dictated new disability standards for identifying students with an LD which includes an RTI framework as part of the updated special education rules and regulations. As part of this eligibility process, these new standards require documentation of quality scientific, research-based instruction by the regular education teacher and the collection of assessment data demonstrating each student's response to that quality instruction. The purpose of these new Tennessee Rules and Regulations is for school systems to examine the quality of instruction occurring in the regular education program. Teachers who use ineffective teaching practices increase the likelihood that low achieving students will fall further behind because learning becomes a function of individual differences (Begeny & Martens, 2006). If the collected data show the student did not achieve at a proficiency level or rate of growth consistent with state approved grade level standards or with the student's age, the student may be identified as a student with an LD.

This examination of teacher effectiveness includes redirecting teacher focus from student deficits to at-risk students. Incorporating an RTI framework into the regular education classroom will necessitate a shift from a reactive system of offering services only when a significant discrepancy is present to a more proactive system of identifying potential at-risk students and providing those students systematic, high quality intervention. Studies reviewed by Ardoin, Witt, Connell, and Koenig (2005) documented that using an RTI framework will require schools

to examine contextual issues (quality of instruction) and, more importantly, shift focus from identifying students with a deficit to identifying students at risk.

The Tennessee Rules and Regulations also call for the collection and use of progress-monitoring data. Regular education teachers will need to rely upon collected progress-monitoring data to make instructional decisions. The information produced by progress-monitoring data is examined by regular education teachers to evaluate if academic improvement has occurred. This collected formative data encourage regular education teachers to change instructional strategies to meet individual student needs while strengthening academic weaknesses and eliminating documented achievement gaps.

De Boer, Bosker, and van der Werf (2010) examined the effect of teacher expectations on students. Their research indicated a type of teacher bias, in that regular education teachers, who expect less out of certain students, will decrease the amount and level of educational opportunities for those students while increasing those same opportunities for students who they expect to do well. The difference in educational opportunities was based on those teachers' expectations of student performance, not on what the students were actually achieving in the classroom. The study by De Boer et al. (2010) illustrated the intent of the RTI framework, wherein teachers react to the data collected on student performance rather than their own perceptions of how they think students will perform.

Another challenge for regular education teachers involves using progress-monitoring data to discern when an intervention is not working and deciding how best to adjust their instruction. Keilty, Larocco, and Casell (2009) noted that regular education teachers sometimes struggle with embedding interventions in routine activities and might therefore struggle with how to assess students during routine activities and how to identify the effects of the student's social and

physical environments on student learning and participation. Regular education teachers acting as interventionists might also be unsure how to integrate assessments serving multiple purposes, such as assessment for eligibility determination, which might require a standardized score, and assessment for program planning, which requires functional information (Keilty et al., 2009).

Given the possible negative consequences of placing a student in special education who should not be placed there and the critical function that progress-monitoring data plays in an RTI framework, it is essential that reliable, valid, and sensitive progress-monitoring measures are used (Ardoin, 2006). The collection and use of progress-monitoring data are integral pieces of the decision-making process in an RTI framework. Regular education teachers need to be able to collect progress-monitoring data accurately, interpret the results from the progress-monitoring assessments accurately, and use those results to make informed instructional decisions geared to benefit those students who are struggling. Fidelity of intervention and instruction can be managed through administrative actions including targeted professional development as well as formative and summative evaluations of regular education teachers and students.

With the dramatic paradigm shift that comes with implementing an RTI framework, the role of regular education teachers will also change. This change will necessitate new professional development needs for regular education teachers. Regular education teachers will need professional development tailored to instruct them in the RTI framework including collecting and using progress-monitoring data. The purpose of the study is to evaluate regular education teachers' perceptions of the RTI framework, their perceptions of the progress-monitoring process, and their perceptions regarding professional development offered to address the RTI framework.

Research Questions

1. To what extent do regular education teachers perceive they understand the Response to Intervention framework?
2. To what extent do regular education teachers perceive they understand the progress-monitoring process?
3. To what extent do regular education teachers perceive their readiness for the implementation of the RTI framework?
4. To what extent do regular education teachers perceive the effectiveness of the professional development opportunities offered to them for the implementation of an RTI framework?
5. To what extent do regular education teachers perceive the effectiveness of an RTI framework on the academic growth of at-risk students?

Significance of the Study

Both the No Child Left Behind Act (NCLB) and the Individuals with Disabilities Education Act (IDEA) work to ensure students' needs are met throughout their educational experience. The use of accommodations, modifications, and interventions during classroom instruction are woven into the fabric of both the aforementioned laws. The concept of an RTI framework was written into the edicts of NCLB and that concept was implemented through the IDEA reauthorization of 2004, wherein school systems were given the choice to use an RTI framework to determine if students were in need of special education services specifically under the LD category. Data from numerous sources (Ardoin, 2006; Buzhardt et al., 2010; Stecker et al., 2008) indicate that the use of an RTI framework has become a viable option for the identification of special education students. Although the research supporting the use of an RTI

framework is increasing, the mixed results of these studies demands further study in the viability of application in school systems (Ardoin et al., 2005).

This study provided a foundation for insight into regular education teachers' perceptions of the RTI framework by investigating the use of an RTI framework by regular education teachers from four school systems in East Tennessee. The study allows for an exploration of teacher perceptions related to the RTI framework, as well as teachers' perceptions regarding their own knowledge of the RTI framework. The study investigates teachers' perceptions of the collection and use of progress-monitoring data. The study also explores teachers' perceptions of the professional development opportunities presented to assist them in the RTI framework. Finally, the results of the study add to the emerging body of research as on the perceptions and needs of teachers mandated with implementing an RTI framework.

Limitations and Delimitations

The limitations of the study include:

1. The use of an RTI framework as the sole means to determine special education eligibility is optional in Tennessee, so not every school system may be using an RTI framework.
2. Specific RTI framework implementation guidelines are developed by each individual school district and will differ from district to district.
3. In a convenience sampling, survey response rates through participant self-selection for participation may skew collected data limiting the results of this study. The number and type of participants who choose to respond to this survey might limit the results of this study.

The delimitations of this research study potentially affecting the generalizability of the study to other school systems consisted of:

1. The participants surveyed were restricted to regular education Kindergarten, First, Second, and Third grade classroom teachers.
2. The participants surveyed were restricted to four school systems in Upper East Tennessee.

Definitions of Terms

For the purpose of this research the following operational definitions were used:

1. *Accommodations*- the actual teaching supports and services that the student may require to successfully demonstrate learning. Accommodations should not change expectations to the curriculum grade levels (Watson, 2009).
2. *At-risk students*- students who are not progressing at the same rate as their peers on grade level. They require more intensive small-group or individual instruction to make progress in acquisition of skills (Buffman, Mattos, & Weber, 2009).
3. *Convenience sampling*- a nonprobability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher (Hultsch, MacDonald, Hunter, Maitland, & Dixon, 2002).
4. *Core Curriculum*- the content areas that all students are required to study at school (Watson, 2009).
5. *Curriculum-Based Assessment (CBA)*- measurement that uses direct observation and recording of a student's performance in the local curriculum as a basis for gathering information to make instructional decisions (Deno et al., 2009).

6. *Curriculum-Based Measurement (CBM)*- formative evaluation method to assess student progress in specific academic domains including reading, mathematics, written expression, and spelling (Deno et al., 2009).
7. *Differentiated Instruction*- proactive, planned, and varied approaches to teaching the content areas students need to learn, using different learning modalities to teach to the strength of each student (Tomlinson, 2003).
8. *Eligibility*- the determination of whether or not a child qualifies to receive early intervention or special education services based on meeting established criteria (Tennessee Department of Education, 2008).
9. *Eligibility Rate*- the percentage or number of students determined eligible for special education (Tennessee Department of Education, 2008).
10. *Fidelity*- the accurate and consistent provision or delivery of instruction in the manner in which it was designed or prescribed according to research findings and/or developers' specifications. Five common aspects of fidelity are adherence, exposure, program differentiation, student responsiveness, and quality of delivery (Bianco, 2009).
11. *Individual Educational Program (IEP)*- written plan for each student in special education describing the student's present level of performance, annual goals including short-term objectives, specific special education and related services, dates for beginning and duration of services, and how the IEP will be evaluated (Tennessee Department of Education, 2008).
12. *Interventions*- accommodations, modifications, differentiated instruction, or use of alternate materials to address at-risk students' academic deficit areas (Tennessee Department of Education, 2008).

13. *IQ-Discrepancy Model*- the severe discrepancy between ability and achievement in one or more of the basic psychological processes involved in understanding or in using language, spoken or written that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations (Tennessee Department of Education, 2008).
14. *Learning Disability (LD)*- a learning deficit in which the child, despite being provided with appropriate learning experiences and instruction, does not achieve adequately for the child's age or meet state approved grade level standards in one or more of the following areas: oral expression, listening comprehension, written expression, basic reading skills, reading fluency skills, reading comprehension, mathematics calculation, or mathematics problem solving (Tennessee Department of Education, 2008).
15. *Learning Modalities*- how students acquire information, evaluate it, and then examine their findings. Learning modalities are visual, auditory, kinesthetic, or a combination (Watson, 2009).
16. *Least Restrictive Environment (LRE)*- the maximum extent appropriate for children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, 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 (Tennessee Department of Education, 2008).

17. *Modifications*- changes made to curriculum expectations in the lessons, assignments, grouping, or grades to provide a more successful rate of growth for at-risk students in academic subjects (Tennessee Department of Education, 2008).
18. *Response To Intervention (RTI)*- a tiered approach to providing services and interventions to students who struggle with learning at increasing levels of intensity. The progress students make at each stage of intervention is closely monitored. Results of this monitoring are used to make decisions about the need for further research-based instruction or intervention in regular education, in special education, or both (Reutebuch, 2008).
19. *Tiered Instruction*- instruction that occurs in increasingly intense levels, with group size becoming smaller as the student progresses through the tiers of intervention. Tier 1 is primary prevention for all students, known as core curriculum. Tier 2 is secondary prevention that provides more targeted intervention for struggling students. Tier 3 is tertiary prevention that includes intensive, individualized interventions for students in need of more concentrated support (Mellard, & Johnson, 2008).

Overview of the Study

This study was organized into five chapters. Chapter 1 contains the introduction to the study, significance of the study, statement of the problem, research questions, delimitations and limitations, definitions of terms, and an overview of the study. Chapter 2 provides a review of literature relevant to the No Child Left Behind Act (NCLB), The Individuals with Disabilities Education Act (IDEA), and the Response To Intervention (RTI) framework. Chapter 3 is an explanation of the methodology used to conduct the study. Chapter 4 details the findings of the

data analyses. Chapter 5 is comprised of the summary of findings, conclusions, and recommendations for further research in response to this study.

CHAPTER 2

REVIEW OF LITERATURE

This review centers on the Federal and State of Tennessee Rules and Regulations governing the identification of students with disabilities through an IQ-Discrepancy model and the use of an RTI framework. The reviewed literature also focuses on the collection and use of progress-monitoring data, the implementation of an RTI framework, and the professional development for regular education teachers regarding an RTI framework.

Federal and State Education Rules and Regulations

Federal policy has played a major role in supporting standards-based reform since the passage of the Improving America's Schools Act (IASA) of 1994 (Goertz, 2003). As states began to move in the direction of using standards-based approaches to teaching, it became evident that most states were developing different definitions for success, different indicators for that success, and different consequences for failing to reach the goals of the state. The No Child Left Behind (NCLB) Act of 2001 was designed, in part, to address this variability in state policy (Goertz, 2003). The NCLB Act is an updated version of the Elementary and Secondary Education Act (ESEA), the nation's major federal law related to education in grades pre-kindergarten through high school (Cortiella, 2006). According to Cortiella, NCLB is built on four basic principles: a) accountability for results, b) an emphasis on doing what works based on scientific research, c) expanded parental involvement and options, and d) expanded local control and flexibility. NCLB expanded the requirement of summative testing in reading and mathematics to include every student in grades 3 through 8, required schools to measure Adequate Yearly Progress (AYP) of all schools using the same federal definition, and established a set date for all students to be proficient (Goertz, 2003). To ensure compliance,

NCLB also included severe sanctions for school districts and individual schools that did not reach the accountability provisions included in the Act. These sanctions include the following options: a) takeover of the school by the state, b) turning management of the school over to a private firm, c) shutting down and reopening as a charter school, or d) reconstitution of the school by replacing some or all administrators, staff, or faculty (Guisbond, 2012).

Through NCLB Congress made clear its focus on improving the educational outcomes for all students. Congress identified the purpose of NCLB as ensuring all students have the opportunity to receive a high quality education (Handler, 2006). NCLB requires early intervention in the regular education classroom, particularly in the area of literacy, which could potentially result in a reduction in the number of students referred for special education evaluation. This reduction in special education referrals would be in direct correlation to the improvement of intervention techniques used with struggling readers by the regular education teacher in the regular education classroom. NCLB, in conjunction with the IDEA, has created incentives to improve how K-12 instruction is provided and to improve the achievement of all students, including those with disabilities (Danielson, Doolittle, & Bradley, 2007).

IDEA is the federal law dealing with the education of children with disabilities (Cortiella, 2006). Congress initially passed the Education for All Handicapped Children Act (ESEA) in 1975 providing a federal law to ensure that states and local school systems would serve the educational needs of students with disabilities. The ESEA was rebranded as the Individuals with Disabilities Education Act (IDEA) in 1990. In reauthorizing IDEA in 2004, Congress found that the education of students with disabilities had been impeded by low expectations and an insufficient application of research-based methods of teaching and learning (Cortiella, 2006). Significant changes to IDEA as well as a close alignment to NCLB are designed to provide

students with disabilities access to high expectations and to the regular education curriculum in the regular classroom, to the maximum extent possible, in order to meet developmental goals and, to the extent possible, the challenging expectations that have been established for all children (Cortiella, 2006). NCLB and IDEA clearly demonstrate a focused attempt by the U.S. Congress to improve the educational outcomes for students with disabilities through shared responsibility and accountability of both general and special educators (Elliot, 2003).

In addressing the education of children with disabilities, congressional intent to enhance educational outcomes through authentic engagement with regular education core academic content taught by professionals with expertise in that content and measured through objective state level assessments is clearly evident in both NCLB and IDEA (Handler, 2006). Like NCLB, IDEA also puts clear focus on increasing educational outcomes for students with disabilities through greater instructional opportunity in regular education classes and instruction by expert content area teachers (Handler, 2006). Under IDEA all supplementary aids and resources must be documented and tried in the regular classroom environment before a student can be deemed eligible for special education (Elliott, 2003). In contrast to previous versions of both laws NCLB and IDEA demonstrate a unification of educational procedures, responsibilities, and expectations for success of students with disabilities (Elliott, 2003). According to Handler the complementary relationship between NCLB and IDEA in terms of the education of students with disabilities is evident in the direct references and parallel language imbedded in the bodies of each legislative act, with the IDEA specifically named at least 38 times in the text of NCLB. Most of these references focus on the expectation for alignment of practices between the two acts (Handler, 2006).

Learning Disability Identification

According to the National Joint Committee on Learning Disabilities (NJCLD, 2010), many concerns were acknowledged in regards to identifying students with an LD during the reauthorization of IDEA 2004. These concerns triggered experts in the field to reevaluate past practices of identifying students with an LD using IQ testing and the severe discrepancy model (NJCLD, 2010). In 1977 the United States Office of Education recommended the following definitions for an LD:

The term "specific learning disability" means a disorder in one or more of the psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The term does not include children who have learning disabilities which are primarily the result of visual, hearing, or motor handicaps, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage. (p. 65083)

The use of IQ-achievement discrepancy procedures for the identification of children with an LD, and more specifically a reading disability (RD), has come under widespread and persistent criticism (Compton, Fuchs, Fuchs, & Bryant 2006). Fuchs and Fuchs (1998) noted that the IQ-discrepancy model fails to account for poor instruction in the regular education classroom, fails to give the regular education teacher a direct link to useful interventions to utilize, and is viewed by regular education teachers as a wait to fail model for special education identification. The President's Commission on Excellence in Special Education Commission concluded this method of determining special education eligibility is too burdensome on school

systems in terms of time and money and neglects to address instructional programming for students deemed eligible (Yell & Drasgow, 2007). Changes in legislation, research, and education have not only brought change to many aspects of assessment and evaluation of all students, including students with an LD, but also stimulated continued efforts to further enhance the assessment and evaluation process, as well as link it to instruction (NJCLD, 2010).

Researchers have endorsed the incorporation of a research-based intervention process as an identification criterion because it combines the important features of assessment and instruction and addresses many of the limitations currently associated with the aptitude versus achievement discrepancy models of LD identification (Johnson et al., 2006; Reutebuch, 2008). As detailed by Keilty et al. (2009), recommended practices in early childhood assessment have increasingly called for the use of authentic assessment methods aligned with developmentally appropriate assessment principles. Authentic assessments gather information of a student's functioning in everyday routine activities (i.e., contextualized) through naturalistic inquiry methods (e.g., observation and interview) to provide meaningful data in support of learning and development within the same activities.

Response To Intervention

With the passing of new federal rules and regulations starting in 2004, the state of Tennessee created new disability standards for identifying students with an LD. As part of this eligibility process, new standards mandate the use of progress-monitoring data to document research-validated instruction and appropriate interventions and learning experiences in the regular classroom environment. According to Johnson et al. (2006):

Earlier statutes regarding the determination of an LD included a provision for evaluating the extent to which students had received appropriate learning experiences. However, no

systematic process was outlined in the earlier regulations for ensuring that the learning experiences provided before referral for evaluation were those that have been found to be typically effective for the child's age and ability levels. The responsiveness to research based intervention concept in IDEA 2004 is an elaboration or greater specification of this basic concept. (p. i2)

A student who did not achieve at a proficiency level or rate consistent with state approved grade level standards or with the student's age (Tennessee Department of Education, 2008) would automatically be identified as a student with an LD. The use of progress-monitoring data by regular education teachers in decision making leads to positive outcomes including instruction that is tailored to student needs and increased student performance (Hojnoski, Gischlar, & Missall, 2009).

In response to these new eligibility standards, many groups of educators have proposed eliminating the discrepancy model and the use of IQ testing for eligibility determination and replace the process with a Response to Intervention (RTI) framework (Fletcher et al., 2004).

According to Reutebuch (2008):

Response to Intervention (RTI) is a framework for providing high quality instruction and intervention matched to students' individual needs. It includes the practice of frequent progress monitoring and use of data to make educational decisions about instructional and grouping practices as well as the duration, frequency, and amount of time allotted for interventions. The goal of RTI is to prevent academic and behavioral problems and assist in identifying students with specific learning disabilities (SLD). It focuses on improving outcomes in both regular and special education through the use of procedures with a strong research base used for decision making. (p. 126)

Various methods have been proposed to operationalize an RTI framework with current models favoring a three tier system (Compton et al., 2006). The collected assessment data are used to determine the appropriate tier of intervention for the student as well as to determine if that intervention is successful (Burns, Scholin, Kosciulek, & Livingston, 2010) Compton et al. (2006) noted that:

RTI advocates suggest the following advantages of an RTI framework for RD identification: a) an earlier identification of RD to avoid a “wait to fail” model, b) a strong focus on providing effective instruction and improving student outcomes, and c) a decision making process supported by continuous progress monitoring of skills closely aligned with desired instructional outcomes. (p. 394)

The hypothesis is that, with the use of an RTI framework, struggling students can be identified earlier and provided appropriate instruction, thus increasing the likelihood that they can be successful and maintain their class placement (Johnson et al., 2006). A key feature of an RTI framework is the use of continuous progress monitoring in regular education classrooms to provide frequent, brief, and direct assessment of individual students (NJCLD, 2010) as well as adjustment of instruction to address student needs revealed by the assessment data.

Collection of Progress Monitoring Data

Collecting and graphing performance data are important parts of the educational process (Hojnoski et al., 2009). Many schools and districts are exploring data-driven decision making as a solution for improving resource allocation and instructional program decisions. School systems in Tennessee are required to collect progress-monitoring data as part of the identification process of students with disabilities, but how those data are collected is left up to each system. Most data available for school districts to analyze student progress and teacher effectiveness

come in the form of summative, standardized assessments such as The Tennessee Comprehensive Assessment Program (T-CAP). The T-CAP is a set of statewide assessments given to all third through eighth grade students. Stecker et al. (2008) found that while norm referenced, standardized tests can provide a clear picture of a student's achievement levels in comparison to their peers, these tests take a great deal of time to administer, rarely reflect the actual content taught, and provide little insight to the teacher for instructional decision making.

While the use of summative data (unit tests and year end tests) is still the predominant source of student data, formative assessments are a preferred source for the collection of progress monitoring data. The important aspect of formative evaluation is the timely ongoing collection of student performance data that can be used to make instructional changes while the actual content is being taught instead of waiting till the end of the year when student outcomes are measured by summative assessments (Graney & Shinn, 2005). Burns et al. (2010) stated the educational importance of classroom assessments is elevated in response to the NCLB and IDEA mandates for the use of instructional based decisions based on the RTI framework intervention data and results. In most school districts the only available outcome data are classroom grades and end of the year tests. These data, while useful to generate an annual analysis of a school district, are insufficient for changing direction or instructional strategies within a single marking period. Progress monitoring methods assist teachers in the assessment of student performance on content that is closely associated with the outcomes they are expected to reach by the end of the school year (Stecker et al., 2008).

One of the foundational elements of an RTI framework is a technically adequate system of screening and progress monitoring of student learning (Deno et al., 2009). With school age children, collecting and graphing data have been associated with more frequent instructional

changes to better meet children's needs, increased quality of Individual Education Plan (IEP) objectives, and increased child performance (Hojnoski et al., 2009). Burns et al. (2010) noted that student progress in an RTI framework is typically assessed in terms of their level and rate of achievement but how that is best measured is not clear. Most regular education teachers do not possess the formal knowledge or training to collect and interpret formative assessment data nor to implement appropriate interventions based on that data (Gallagher, Means, & Padilla, 2008). Burns et al. (2010) found that the more intense the students' needs are, the more intense the intervention should be and the more frequently data should be collected to monitor progress. The expectation is that research-based interventions will be implemented in the regular classroom setting throughout the tiered RTI framework. These interventions should yield usable data to determine student achievement and the success or failure of the intervention to institute a change in a student's learning rate.

With the edict from the Tennessee State Department of Education for the implementation of an RTI framework, educational organizations and, more specifically, regular education teachers have discovered they have much to learn about the complexities of integrating data effectively into their decision making processes. Teachers, schools, and districts are eager to implement alternative assessment measures; specifically, measures that link assessment to instruction and that are sensitive to change (Hoffman, Jenkins, & Dunlap, 2009). However, Hoffman et al. noted that regular education teachers lack the requisite skills to implement such measures, resulting in a barrier to identifying a connection between regular classroom assessments to regular classroom instruction. Any intervention strategy should be supported by rigorous research-based data measuring the effectiveness and strength of said intervention. The concept of intervention strength addresses the length of time the intervention is provided and the

specificity of the intervention to the area of instructional need (Danielson et al., 2007). Although early childhood educators report that data collection is important, research suggests data collection practices in early care and education settings are inconsistent, and lack of skill has been reported as one of the barriers to frequent and systematic use of data (Hojnoski et al., 2009).

Hoffman et al. (2009) stated that the current educational climate valorizes scientifically based and evidence based research. Over the past 6 years meeting the data requirements of NCLB and adapting or acquiring electronic data systems capable of generating the required student data reports have consumed much of the attention of district and state assessment and technology offices (Gallagher et al., 2008). Ardoin (2006) acknowledged that previous studies:

suggested that progress monitoring measures used to evaluate a student's academic progress need to have the following characteristics: a) be quick to administer, b) have adequate reliability and validity, c) be representative of what the student is learning, d) aid in intervention development, and e) be sensitive to gains in academic performance so that intervention effectiveness can be evaluated. (p. 713)

Collecting progress-monitoring data involves more than simply administering a unit or chapter test. Teacher-made tests attempt to evaluate the instructional content that was recently taught, but these assessments are usually limited to a small domain of the content area resulting in the teacher having information about a student's level of content knowledge and skills but little to no information regarding the student's overall proficiency level or how that student's proficiency has changed over time. Stecker et al. (2008) noted that teachers cannot assume the scores generated by these informal measures are valid and reliable as the level of technical adequacy is rarely documented. Burns et al. (2010) noted:

There are two commonly discussed frameworks to evaluate if the progress monitoring data are sufficiently positive to suggest an effective intervention. The two approaches involve either 1) plotting student Curriculum Based Measurement (CBM) reading data in a time series graph and comparing progress to an aimline or 2) computing a numerical slope and comparing the slope of growth and the post intervention reading level to some criterion in what is called a dual discrepancy (DD) (p. 103)

Curriculum Based Measurement

Curriculum Based Measurement (CBM) is one widely used method for progress monitoring purposes across regular and special education. Developed and researched at the University of Minnesota beginning in the early 1970s, CBM is collected by teachers in their classrooms and provides measures in academic areas such as reading, mathematics, written expression, and spelling that can reliably and validly be used to make instructional decisions (Deno et al., 2009). CBM scores represent overall aptitude in an academic area instead of performance on a smaller portion of the content area. Using simple yet technically sound data to demonstrate student growth and to determine the need for instructional intervention was the original purpose for progress-monitoring data such as CBM scores (Stecker, Fuchs, & Fuchs, 2005). According to Roehrig, Duggar, Moats, Glover, and Mincey (2008) CBM answers two questions:

- 1) Is a particular student or group of students performing at an expected level given particular instructional conditions? and 2) Is that instruction strong enough for the student or group of students to make sufficient progress to achieve an expected goal at the end of the instructional period? (p. 365)

Deno et al. (2009) stated that CBM may be collected by teachers in their classrooms and produces data on student growth that are both reliable and valid for making instructional decisions. The high rate of support for and the use of CBM is most likely due to the sufficiency of the data CBM produces as well as its capability to document a precise level of student growth (Burns et al., 2010). CBM is widely used across the United States as a form of progress monitoring and increasingly for benchmarking and to predict performance on high stakes assessments (Deno et al., 2009). Stecker et al. (2005) noted that:

CBM relies upon several distinguishing features. First, CBM assesses student progress toward long term goals. That is, evaluation of general outcomes rather than mastery of successive objectives is a primary distinction of CBM. For example, with CBM, alternate forms of short tests are developed that sample performance toward the long term goal, not just the content or skills the student is learning currently. Performance on these measures illustrates what a student is able to do relative to the long term goal, or general outcome. (p. 796)

Teachers use CBM data to inform their ongoing instructional decision making, determining at what points instructional changes might be necessary. According to Ardoin (2006) while it is commonly recommended when using CBM progress-monitoring data to determine whether an intervention is effective for a student, a minimum of 10 data points should be collected. More recent research suggests the number of data points needed to make a reasonably valid estimate of a student's progress is closer to 20 data points collected over a 10 to 12 week period. Progress-monitoring data such as CBMs consist of time efficient, practical, and simple procedures for frequently measuring growth that serve as indicators of overall proficiency in an academic area (Ardoin, 2006). In addition, it is possible to aggregate progress-monitoring

data such as CBMs at both classroom and school level for accountability purposes (Deno et al., 2009).

The increase in the need for progress-monitoring data has prompted school systems to develop their own progress-monitoring instruments while others have purchased web based data collection tools. Some of these resources include online assessments, formative assessments with results linked to curriculum guides and instructional materials, and model lesson plans (Gallagher et al., 2008). Another such tool, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), the proprietary name given to the work of Roland Good and Ruth Kaminski and their colleagues at the University of Oregon, is an example of a comprehensive assessment system that is scientifically based (Hoffman et al., 2009). According to Hoffman et al. (2009) DIBELS is an outcomes-driven model with the purpose for the early identification of students who may need additional support while also assisting in the evaluation and modification of instruction in an ongoing formative basis to ensure that all children achieve high stakes reading goals.

In addition to CBM, another method used to monitor student progress is the Dual Discrepancy (DD) model. DD involves comparing postintervention reading levels to benchmark standards, such as those presented with DIBELS, and the numerically computed slope of growth is compared to percentile ranks from local normative data. With the focus from federal law and state rules and regulations that an RTI framework be research based and scientifically validated, it is important that any collection tool, whether district created or purchased from an outside organization, be properly used and vetted over time. During the 2004–2005 school year, for example, 8,293 schools used the DIBELS data system, totaling over 1.7 million K–3 students (Hoffman et al., 2009). In their study Hoffman et al. (2009) noted that although over half of the study participants indicated using DIBELS for progress monitoring purposes, only a very small

percentage of respondents indicated, in a subsequent question, that DIBELS informs instruction through progress monitoring.

The purpose of progress monitoring is to represent student growth in the curriculum throughout the school year. Many districts and school leaders are working to inspire and support teachers' involvement in data-informed decision making (Gallagher et al., 2008). Roehrig et al. (2008) noted that progress-monitoring assessments like CBMs are designed to assist teachers in adapting and individualizing their classroom instruction to meet the needs of their students. Teachers are encouraged to use progress-monitoring data to identify those particular students who are not progressing at acceptable rates so that changes to those students' instruction can take place. The Reading First Assessment Committee defined progress monitoring as assessments that are done to determine if students are making adequate progress or need more intervention to achieve grade level reading outcomes (Hoffman et al., 2009).

Use of Progress Monitoring Data

The collection, analysis, and use of education data are central to the improvement of student outcomes envisioned by NCLB (Gallagher et al., 2008). Stecker et al. (2008) noted:

States use assessment data to evaluate the effectiveness of their educational systems, school districts use assessment data to monitor the success of their instructional programs, and regular education classroom teachers use assessment data to determine students' strengths and weaknesses in particular areas of the curriculum (p. 48).

Knowing students' skill levels is essential for selecting and implementing effective intervention techniques. Rather than relying on static test based measures or a student's response to a single intervention, decision making in an RTI framework is based upon direct assessment of a student's response to varying levels of intervention intensity (Ardoin et al., 2005). According to

Gallagher et al. (2008) in an education context data-informed decision making is the analysis and use of student data and information concerning education resources and processes to inform planning, resource allocation, student placement, and curriculum and instruction. By collecting data on a continual basis patterns become evident regarding whether or not a student is showing progress toward a predetermined set of instructional goals.

Progress monitoring includes the assessment of student performance level and the rate of student growth. The collection and use of progress-monitoring data has become increasingly significant as an assessment tool for all teachers. “Because of this extensive role for progress monitoring in today’s schools, it is necessary that progress-monitoring tools: a) be sensitive to student change, b) be educationally meaningful, and c) do not monopolize instructional time” (Stecker et al., 2008, p. 49). Progress-monitoring data gives a current picture of how a particular student is progressing in the curriculum in which he is involved. Graney and Shinn (2005) declared that formative evaluations should include frequent assessment of students, individualized student progress goals, an easy to read graphic display of the progress-monitoring data, summarized statistics of student progress, and rules for data-based decision making in regards to maintaining or modifying the existing regular education instructional program. These data are then used to determine if intervention is needed, and if so, in what area of the curriculum. Roehrig et al. (2008) concluded that schools considered successful in educating all students use the results of assessments to improve regular education teacher effectiveness as well as student learning.

Data-informed decision making goes beyond the use of an electronic data system; it includes the adoption of a continuous improvement strategy that includes a set of expectations and practices for the ongoing examination of student data to ascertain the effectiveness of

educational activities and, subsequently, to refine programs and practices to improve outcomes for students (Gallagher et al., 2008). In addition to the need for progress monitoring tools to be reliable and valid for instructional decision making, the data generated must be sensitive to change in the student's performance level and rate of growth. Ardoin (2006) declared that previous research highlights the difficulties in making reliable educational decisions regarding individual student's response to instruction when using CBM progress-monitoring data. This problem comes from educators not following standardized procedures for administration of collection methods and not accurately interpreting the results from those assessments.

Any change in a student's progress should be attributable to growth or deterioration in that student's achievement, not to a teacher modifying the administration of the assessments or allowing additional time to complete the assessments (Stecker et al., 2008). Electronic and other types of data-gathering tools can assist regular education teachers in the collection and monitoring of student progress, but teachers must have access to those data. According to Gallagher et al. (2008) an analysis of national survey data from district technology coordinators and regular education teachers from 2005 and 2007 illustrated that even though there was a significant increase in teacher reported access to electronic student data systems between 2005 and 2007 (from 48% to 74%), regular education teachers are more likely to report having electronic access to students' grades and attendance rather than to achievement data, with only 37% of all teachers reporting they have electronic access to achievement data for the students in their classrooms in 2007.

There is great variation in RTI frameworks and implementation practices (e.g., three or four tiers of intervention, focus on academics only or academics and behavior, role of school wide screening); however, for many schools, the implementation of an RTI framework has led to

changes in decision making and instructional delivery for all students (Deno et al., 2009). The decision-making frameworks created and used by districts should result in consistent decisions and improved student learning. If data are to influence the quality of the instruction that students receive, regular education teachers who work with students every day need access to timely information relevant to instructional decisions and those regular education teachers must have the necessary skills to make sense of student data reports (Gallagher et al., 2008). Even though nearly three quarters of all regular education teachers reported having access to student data systems in their 2007 study, Gallagher et al. (2008) found the proportion of regular education teachers with data system access who also have tools for making instructional decisions informed by data remains below 20%. Roehrig et al. (2008) noted that the use of data-based decision making has been found to produce more effective results than other, more informal, methods regular education teachers often use when determining the success of their own teaching.

However, one area of continuing concern for many professionals implementing an RTI framework is fidelity of implementation or treatment integrity (Bianco, 2009). Fidelity of implementation concerns the delivery of instruction in the way in which that instruction was designed and intended to be delivered. In the RTI framework it is essential that intervention fidelity is present in the regular education environment. If the collected progress-monitoring data are going to be used to determine if a student is responding to an intervention, that intervention must have been implemented and used correctly and consistently. The functional relationship between the use of the intervention and the student's response to that intervention is the crucial component to the entire concept of the RTI framework. An important part of the intervention process is ensuring that the interventions used address the student's academic needs

and are correctly and consistently implemented by the regular education teacher (Gilbertson, Witt, Singletary, & VanDerHeyden, 2007).

Burns et al. (2010) found that while research has documented high reliability associated with CBM scores, there is no documentation regarding the reliability or validity of decisions based upon those measures in an RTI framework. Gilbertson et al. (2007) noted that even though precise implementation of interventions is important to the fidelity of the RTI framework, studies researching treatment integrity of those interventions have found that precise implementation by regular education teachers does not always take place. Duhon, Mesmer, Gregerson, and Witt (2008) documented several studies where levels of treatment integrity were directly measured and noted that the extent to which the actual intervention plan was carried out fluctuated from a very high level to the intervention plan being entirely dismissed by the regular education teacher. Ironically, that same research yielded the fact that when those regular education teachers who dismissed the intervention plans were interviewed, they self reported a high degree of treatment integrity.

In a review of research Stecker et al. (2005) found that although regular education teachers collected CBM data accurately, they failed to make instructional changes when the data demonstrated intervention was necessary. Realizing that the ultimate outcome of the RTI framework (if the student does not demonstrate measurable progress or growth) is the determination of a learning disability, it is crucial that the RTI framework used is implemented with fidelity and integrity. The more important the assessment outcomes are the more crucial treatment integrity in regards to intervention implementation becomes (Danielson et al., 2007).

Districts have stressed to regular education teachers the importance of using benchmark data (such as that provided by DIBELS) to categorize students as at risk or not at risk for

learning difficulties. Benchmark data are collected three or four times per year and categorized according to a cut score determined by the district. However, Stecker et al. (2008) noted that current assessment practices rely upon regular education teachers making instructional decisions based on student scores collected at one moment in time then waiting for the next assessment period to collect another set of student data before determining whether their instructional interventions have been successful with their students. This approach can result in students being misidentified as not at risk because they met a specific benchmark score even when their academic growth is at a lower rate than their peers. Conversely, students may be identified as at risk because their benchmark score is lower than the benchmark cut score even if their continued rate of academic growth matches or outpaces that of their peers. Buzhardt et al. (2010) noted that regular education teachers must know the available intervention procedures, the uses of those procedures, and the individual components of the interventions to address the particular skill level of each student as highlighted by the collected progress monitoring data.

Another issue that may affect the willingness of regular education teachers to implement an RTI framework corresponds to the focus put upon teacher effect data and growth measures of students for those regular education teachers. These regular education teachers are held responsible for group outcomes instead of individual student results. Graney and Shinn (2005) hypothesized that being responsible for group rather than individual outcomes may be an important factor that regular education teachers recognize when they are deciding to what degree they will modify their entire classroom program in response to the knowledge that one or two students are making inadequate progress. The idea that receiving feedback in the form of progress-monitoring data would drive regular education teachers to increase the achievement of

their at-risk students was not borne out from the study results of Graney and Shinn (2005). They noted:

The principal implication of this study's results for practice is that, to use student progress data effectively, regular education teachers need more than feedback in the form of a graph and a numerical summary of slope of improvement accompanied by general recommendations (p. 198).

Implementation of RTI

Kovaleski (2007) noted that most research based initiatives such as the National Reading Panel or DIBELS failed to address the level of effectiveness of the regular education program for individual students who were not successful in that environment. Current RTI frameworks include universal screenings of all students, differentiated instruction in the regular education program, and the collection and analysis of progress-monitoring data to determine the effectiveness of the common core curriculum as it is taught to all students. If the teaching being delivered is found to be ineffective, then fundamental changes to that teaching are instituted in an effort to rule out lack of instruction as a basis to initiate a special education referral for a struggling student. The large and small scale research based studies of progress-monitoring measures indicates that student outcomes are better for regular education teachers who use progress monitoring data to inform instruction compared to the student outcomes of those regular education teachers who do not use progress monitoring data (Buzhardt et al., 2010). Stecker et al. (2008) described how regular education teachers should view and use progress-monitoring data during the RTI process:

Progress-monitoring data not only describe the student's overall rate of improvement over time, but they prompt the teacher to analyze the effectiveness of the student's

instructional program. Enabling the teacher to use the data to make changes in instruction is one of the most important functions of progress monitoring. When students perform less satisfactorily than anticipated, the teacher should consider aspects of the overall program that he or she could alter to boost student achievement. Typical programmatic features that are alterable include a) instructional procedures, b) time allowed for various instructional procedures, c) size of instructional group, d) instructional materials, and e) any motivational strategies that teachers use during instruction. (p. 52)

Regular education teachers use the collected progress-monitoring data to differentiate the instruction for the struggling learners the data identifies. Differentiated instruction in the use of proactive, planned, and varied approaches to teaching the content areas students need to learn, using different learning modalities to teach to the strength of each student. Differentiated instruction can address a variety of instructional strategies to include varying instruction and assessments to address student interests, learning modalities, ability levels, lesson pacing, and classroom environment issues (Cusumano & Mueller, 2007). Districts also use an RTI framework as a means to rule out a lack of research-based instruction as a potential cause for student's academic difficulties when determining if a student presents as having a learning disability. According to Bianco (2009):

RTI has three basic required features: The first component is matching high quality research based intervention to student's educational and behavioral needs. Second, progress monitoring is used to assess the need for changes in instruction or goals. Third, student response's from progress-monitoring data is the basis of important educational decisions, which might include additional levels or tiers of instructional intensity or possibly eligibility for special education. (p. 4)

Even though the readily available assessment and accountability data provide school systems with insight into the overall performance of their schools, there are major differences between that type of data and the data needed for making instructional decisions in the regular education classroom (Thorn, 2002). Most RTI frameworks make use of a tiered system of intervention. According to Stuart and Rinaldi (2009) most RTI frameworks use a three-tier system, where each tier includes increasingly more intense interventions and supports based on the academic deficits of the students assigned to that tier.

Stuart and Rinaldi (2009) advocate the use of a collaborative planning framework for implementing an RTI framework. The RTI framework designed by Stuart and Rinaldi details how regular education teachers plan their tiered instruction by evaluating benchmark and progress-monitoring data while also assessing student response to the interventions presented during Tier 2 and Tier 3 instruction within the RTI framework. The use of research-based instructional practices is vital to the implementation of Tier 1 instruction in the regular education environment. Tier 1 instruction is the core curriculum that every student is taught at each grade level. Stuart and Rinaldi's Collaborative Planning Framework is composed of three main phases: Planning, Execution, and Feedback. In the Planning phase regular education grade level groups meet to determine the RTI framework's protocol for the identification of at-risk students, locate resources to use to differentiate instruction for those at-risk students, and develop a schedule for the collection of progress-monitoring data and the review of each individual at-risk student's progress. The Execution phase details how the data gathered in the Planning phase are used to establish a baseline and goals of intervention for those students who have progressed to Tier 2. A schedule for the review of Tier 2 progress monitoring data is instituted by the regular education teacher as well as the implementation of differentiated instructional methods to

augment the core curriculum. The third phase, Feedback, involves the regular education grade level teams analyzing the collected data to determine if improvement has occurred.

Research into the effectiveness of an RTI framework should focus on each of the individual components of that framework as well as the overall framework itself once those individual parts are brought together into an understandable framework used for delivery of service to students (Kovaleski, 2007). While not all systems will use Stuart and Rinaldi's (2009) specific Collaborative Planning Framework, it is important to note that some system of framework analysis is necessary for the RTI framework to be implemented with fidelity, especially in the area of encouraging and supporting regular education teachers' efforts to use assessment data to help them individualize instruction. Roehrig et al. (2008) stated:

Although there are some valid arguments that important aspects of effective reading instruction may have been overlooked by the National Reading Panel report, the process of translating the agreed upon knowledge about effective vocabulary, comprehension, fluency, phonological awareness, and phonics instruction into regular education teacher practice can be difficult to implement on the large scale. (p. 364).

Making intervention decisions using progress-monitoring data gathered from the RTI framework may challenge some districts as regular education teachers must have access to a high quality source of data and those teachers must understand how to interpret those data to measure a student's progress (Buzhardt et al., 2010). Studies have documented that students achieve considerably better with regular education teachers who use CBM data for monitoring student progress and making instructional changes based upon those data as compared to the achievement gains of students with regular education teachers who use their own evaluation practices (Stecker et al., 2008). However, in the research conducted by Gallagher et al. (2008),

only a small proportion of the regular education teachers in 2007 reported that the student data system incorporated online assessments, included access to software that they could use to analyze and interpret student test scores, or provided links to instructional resources tailored to student learning needs. Hoffman et al. (2009) found that even though over half of the participants in their study had received training in the DIBELS program, this training appeared to be minimal. From Burns et al. (2010):

The current study examined the consistency of decisions made with two commonly used RTI decision-making frameworks (CBM and DD). The current data suggest that the method used could directly affect the decision reached and that additional research is needed before either approach can be recommended for use with high-stakes decisions about individual students. Based on these data, whether or not a school uses an aimline (CBM) or a DD approach could result in different decisions for 40% of the students. In other words, 40% of the students would be identified as needing more intensive interventions with one model but not with the other. Given that approximately 20% of a school population may require a Tier II intervention, that would be 40 students (assuming a student population of 500 students) whose lives would be directly affected, the result of which could be that some students may not receive the help they need and precious school resources could be ineffectively used for others. (p. 109)

In an effort to measure the effect of various strategies for increasing the success of intervention implementation, studies involving consultation research have focused on treatment integrity of the regular education teachers implementing classroom interventions as these teachers' actions in regards to implementation are critical in changing the educational outcomes for students (Gilbertson et al., 2007.) The lack of internal consistency of these decision-making

frameworks is of great concern as CBM data generally result in reliable data but the decisions being made by regular education teachers within these frameworks fail to reach the minimum reliability standards for data used for instructional decision making with students (Burns et al., 2010). While there are many effective intervention options that can be implemented to benefit students, the number of approaches that can be used to augment teacher implementation of those intervention options are not as abundant (Gilbertson et al., 2007).

Gilbertson et al. (2007) suggest that the first step in implementing an RTI framework is to supply regular education teachers with the necessary training prior to that teacher beginning an intervention in the classroom. Research detailing the regular education practice of making instructional decisions based upon progress-monitoring data found regular education teachers are more capable of making instructional changes when receiving the progress-monitoring data along with conferring with a curriculum coach or receiving recommendations for making instructional changes (Roehrig et al., 2008). Stecker et al. (2005) found that regular education teachers using CBM progress-monitoring data while concurrently implementing instructional changes prompted by student data showed considerable growth while those teachers who received only progress-monitoring data did not increase student progress.

Gilbertson et al. (2007) noted one study showed using teacher-training strategies involving classroom rehearsal and feedback resulted in a greater amount of intervention integrity compared to other typically used strategies such as verbal instruction. Performance feedback provides direct information regarding the accuracy performance of regular education teachers while in the appropriate setting in order to enhance and maintain behavior change (Gilbertson et al., 2007). Adequate training and intervention feasibility is necessary to establish accurate implementation, but recent data indicate that training alone prior to implementation in the

classroom setting is not sufficient to consistently establish correct implementation (Noel et al., 2010). Gilbertson et al. (2007) discussed earlier studies concerning the connection between treatment integrity and treatment variables that found complex, intrusive interventions that required extensive time and energy to implement were associated with lower levels of treatment integrity. According to Roehrig et al. (2008):

The key (i.e., causal condition) needed for greater success in using the data was the reading coach, who was responsible for helping teachers negotiate the context factors. The context factors, which seemed to be necessary but not sufficient variables, were related to teachers' training and knowledge about teaching reading as well as their access to progress monitoring data. The coaches' role, when successful, was to help teachers interpret the data and make informed links to their reading programs in trying to make instructional decisions based on the data. (p. 372)

Graney and Shinn (2005) noted previous studies that declared regular education teachers worked to increase student achievement when, in addition to feedback data and skills analyses for their students, they were provided specific instructional recommendations and ongoing consultation from sources other than themselves. Their research results indicated that feedback to regular education teachers needs to provide more description than simple numbers and graphs and to provide more prescription in terms of what types of interventions need to be implemented to improve student outcomes. A review of literature concerning regular education teacher use of progress-monitoring data suggests that teachers do not have the skills to adequately understand and accurately use standardized test results, accountability data, or progress-monitoring data. Furthermore, the amount and focus of teacher training in regards to progress monitoring should

center more on building the skill sets of regular education teachers to engage in action research, data analysis, and evaluation of their students.

Teacher Perceptions of RTI Framework Implementation and Professional Development

Identifying the source of needed information is the starting point for any type of curricular or school change. Most data readily available to regular education teachers are of the kinds that are most useful for district level decision making. School districts use the aggregated data resulting from end-of-the-year test scores to compare grade levels across the system and state. But while differences are surely noted, the cause of those differences cannot be easily identified. Thorn (2002) noted:

A growing literature on information seeking, information processing, and information use provides insights into how individuals and groups identify information needs and then respond (or choose not to respond) to those needs. This work draws on and can be used to frame other work in the areas of group decision making, knowledge management, and the human factors of decision support systems. (p. 2)

The use of progress monitoring is a key component of an RTI framework. Classroom level regular education teachers are the individuals responsible for the collection, interpretation, and use of progress-monitoring data. There are clear and statistically significant associations between whether regular education teachers use a student data collection system in various ways and their degree of confidence and support in their use of that system (Gallagher et al., 2008).

If an RTI framework is to be successfully implemented in a school system, regular education teachers need training and professional development so they may understand the intricate parts of the RTI framework. Understanding the perceived benefits and limitations of an RTI framework from a teacher perspective is crucial to building and maintaining commitment

from staff in the effort to effectively use an RTI framework in the classroom. Luckner and Bowen (2010), in their study concerning the use of progress-monitoring data, found that regular education teachers noted the biggest change in their teaching beliefs included a better understanding of their students' current achievement levels and each student's need for instructional modifications to promote educational growth. This shift in attitudes stemmed from changing beliefs about education, including the belief that all students are able to achieve high standards when they receive effective instruction, when they have access to research-based methods, and when they receive standards-based instruction.

Regular education teachers express a desire for more professional development around the use of data, and those teachers who do feel they have better than average support from their colleagues and schools for working with data are more likely to use student data for instructional purposes (Gallagher et al., 2008). Roehrig et al. (2008) discussed the fact that in their study:

All of the teachers discussed three primary ways in which they interacted with assessment data to provide focus for their instruction: a) monitoring student progress and areas of strength and weakness; b) adjusting or forming groups for individualizing instruction; and c) identifying appropriate activities, intensity, and level of instruction. (p. 373)

While the study conducted by Roehrig et al. (2008) indicates that regular education teachers understand how they should use data, other studies have brought to light that most regular education teachers need help in actually collecting, interpreting, and using data to inform instructional decisions. Mokhtari, Rosemary, and Edwards (2007) noted while regular education teachers spend a considerable amount of time with progress-monitoring data collection, they

have neither the time nor the requisite expertise to effectively and consistently use those data in making instructional decisions for their students. According to Gallagher et al. (2008):

Roughly 60 percent of regular education teachers with access to electronic student data systems reported having received professional development on this topic at their school. A similar proportion reported having been encouraged by their principal's support for data informed decision making. In contrast, less than 10 percent of regular education teachers with access to data systems reported having had formal coursework on the use of student data systems. 25 percent of regular education teachers who had access to student data systems said that they had received support from a consultant or mentor teacher skilled in data analysis to help them use student data to guide decisions about instruction. 12 percent of regular education teachers with access to a data system reported having had paid time set aside for examining student data and 17 percent reported using data to make decisions about practice. (pp. 16-17)

In their study regarding regular education teachers' use and perceptions of progress-monitoring procedures, Luckner and Bowen (2010) documented the main use of progress monitoring was to discern current levels in reading, math, and other subjects. These regular education teachers listed the student-centered approach to progress-monitoring data, and the fact that these data are accurate and quick to collect with immediate feedback available as benefits to using progress-monitoring data. Regular education teachers who expressed confidence in their ability to use data and student data systems and those who felt well supported by their colleagues in this endeavor were likely to report making additional uses of data, such as identifying student skill gaps, informing changes to the curriculum, and identifying promising practices (Gallagher et al., 2008). The limitations of using progress-monitoring data included time issues (preparing

and assessing students, time away from teaching), the availability and reliability of progress-monitoring probes and materials for students, and finding assessment materials for students who were well below their peers in a certain academic area (Luckner & Bowen, 2010). Mokhtari et al. (2007) stated that the regular education teachers they interviewed indicated they feel they do not have the knowledge or skill set necessary to create and implement a progress-monitoring system to assess and document their students' progress. Ardoin (2006) acknowledged:

Considering the negative impact of implementing an ineffective intervention (e.g., wasted resources and time, dissatisfied teachers, students falling further behind) for extended periods of time, a supplemental assessment procedure to aid in determining that an intervention is ineffective within a shorter period of time would be beneficial. Monitoring a student's maintenance of intervention effects using probes consisting of the material on which intervention is provided is one possible supplemental procedure. (p. 714)

Ardoin's (2006) study demonstrated that using formative assessments based upon the material the student is being taught at that moment resulted in regular education teachers replacing ineffective interventions with other interventions more quickly than in an RTI framework that does not use maintenance of intervention effects. This quicker change of interventions resulted in a faster rate of growth for the students in Ardoin's study.

Gilbertson et al. (2007) noted that the results from their study supported the use of performance feedback during consultation sessions to improve treatment integrity and student outcomes in the regular education environment. These results demonstrated that the exclusive use of oral and written instructions without any teacher training in the actual implementation of the intervention in the classroom setting resulted in an inconsistent implementation of said intervention (Gilbertson et al., 2007). Danielson et al. (2007) declared that beyond providing

regular education teachers with training in how to use research-based best practices, these new practices will result in real school improvement only if the school system has effective professional development opportunities and RTI framework implementation strategies in place for regular education teachers to employ in their classrooms. Seventy-three percent of all districts indicated that they supported professional development in the past 12 months to help teachers and administrators in data-driven decision making (Gallagher et al., 2008). Roehrig et al. (2008) noted that research in effectively delivering professional development to teachers and on the use of progress-monitoring data to improve student outcomes is needed. In their study concerning the evaluation of a specific RTI framework, VanDerHeyden, Witt, and Gilbertson (2007) determined that regular education teachers responsible to collect and analyze progress-monitoring data will need on-site training in how to accomplish that feat. Gallagher et al. (2008) reported:

The 2007 survey asked regular education teachers with access to a student data system whether they could benefit from professional development related to data informed instruction and using a data system. The most common forms of professional development sought were developing diagnostic assessments and adjusting instruction based on diagnostic data. The least sought after professional development was techniques for collaborating with colleagues. A majority of regular education teachers with access to a student data system reported having received professional development on data system use and having support from their principal for data use activities. Teachers express the desire for more professional development in using data particularly for training in how to develop diagnostic assessments and how to adjust instruction based on diagnostic data.

(p. 26)

NCLB in combination with IDEA has made improving the achievement of all students the emphasis of most educational endeavors. Professional development for regular education teachers, which educators and other stakeholders are currently using to address student outcomes and student performance, is becoming more scrutinized in its content and use. Whether the institution is focusing on the use of progress-monitoring data to inform instructional decision making or the effect of using constructed response assessments to measure comprehension levels of students, professional development for regular education teachers in regards to understanding, implementing, and using new ideas concerning educating students must be readily available. While there are numerous types of resources, such as commercial and online programs, for identifying appropriate interventions, it is imperative that schools not only establish an action plan that identifies these resources for regular education teachers to use but also ensures that the resources listed are constantly reviewed and updated as necessary (Swanson, Solis, Ciullo, & McKenna, 2012). Danielson et al. (2007) noted that impediments to implementing and sustaining the use of research-based best practices in the classroom include the need for a thorough research base, training for regular education teachers and administrators in how to effectively implement these research-based practices, and a lack of institutional support for the practices to be used by all teachers. To effectively adapt regular education teacher training and the application of that training, planning for the teacher groups being trained and collecting data on successful implementation after the professional development is offered is important to professional development efforts. To that end, surveying regular education teachers to determine perceived benefit from the professional development coupled with classroom observations to ascertain if the professional development is implemented with fidelity should be part of any professional development effort.

Regular education teachers will need specific types of training to develop their skills in using the RTI framework. Kratochwill, Volpiansky, Clements, and Ball (2007) stated that there is a limited research base for the myriad interventions and practices being conceived and followed in the RTI frameworks school systems are currently implementing. The apparent lack of effective professional development and teacher training in these districts results in school districts adopting research based programs but failing to adequately and correctly implement those programs. Danielson et al. (2007) noted that regular education teachers will need professional development opportunities to learn about differentiated instructional methods to use in the primary and secondary tiers of intervention as well as training in the screening and progress-monitoring assessments to match deficit areas with helpful interventions. Roehrig et al. (2008) declared:

In terms of professional development and coaching type supports related specifically to using data to individualize instruction and improve student learning, our findings are consistent with those of other researchers. Providing mentoring or coaching that includes instructional recommendations in addition to the data seems necessary for teachers to make changes that positively affect student learning. (p. 379)

Stuart et al. (2011) stated that the perspectives of the regular education teachers who play active roles in school reform efforts and who are responsible for the implementation and success of best practices are rarely presented in research literature. Karaca (2011) noted that studies to determine teacher perceptions about their professional issues, while limited overall, are becoming more numerous as the connection is being made between teacher perception of their profession and the effect of those perceptions on the performance of their students. Danielson et al. (2007) stated:

Results from various studies of professional development in the 1990s suggest that professional development can influence teachers' classroom practices significantly and lead to improved student achievement. These studies report that professional development has achieved greater importance as this link between practitioner skills and student performance levels has been delineated. To help improve student performance, the critical features of high quality professional development should be in place, including professional development structures, such as teacher networks and study groups. (p. 633)

Nunn, Jantz, and Butikofer (2009) noted research has revealed that the level of teacher enthusiasm, persistence, initiative, motivation, and innovation greatly impact student outcomes.

Teacher efficacy has been defined as the development of a teacher's belief in how one can influence student outcomes and performance. Kratochwill et al. (2007) noted that because of the direct correlation NCLB made between high quality professional development for regular education teachers and student outcomes, professional development must focus on improving those student outcomes rather than addressing past professional development topics such as teacher content knowledge. In their study Nunn et al. (2009) found that higher levels of teacher efficacy improved teacher perceptions of intervention outcomes as well as increased teacher satisfaction with using data for instructional decision making. A search for the keywords "teacher perceptions" and "RTI" in the PsychInfo database yielded only five articles published between 2007 and 2012. One of these studies of regular education teachers' perceptions on RTI frameworks found that regular education teachers often had concerns about having the necessary time to plan for implementation of an RTI framework as well as their responsibilities to the other aspects of the RTI framework such as interventions, assessments, and collection of data in the

various tiers (Stuart et al., 2011). However, the authors also found that from year 1 of implementation to year 2, regular education teachers had higher regard for their ability to identify struggling students, for their ability to use data to inform instructional decisions, and for the RTI framework as a whole (Stuart et al., 2011).

The impetus is being placed on school systems to use RTI frameworks to address academic concerns for all students as well as a vehicle for special education determinations. It would behoove all school stakeholders to recognize that regular education teachers, who are the means to deliver these reforms, need assistance and direction to pursue these dictates. Begeny and Martens's (2006) research indicated regular education teachers' perceptions of their training to address differentiated instruction and progress monitoring data collection and use in the regular education classroom was insufficient to prepare them for the RTI framework. This lack of training raises serious questions about the strength of instruction and interventions actually being implemented in the regular education program. The inability to rule out the use of ineffective teaching strategies over time may contribute to the misperception that student ability is the only variable determining educational progress in the regular education classroom.

Swanson et al. (2012) noted the importance of using observations of regular education teachers to determine the extent the research-based instructional strategies and interventions provided through professional development activities are being used in the regular education classroom. The system change brought upon by the advent of RTI frameworks necessitates school systems provide regular education teachers with training and support to implement a meaningful RTI framework to help all struggling students. Kratochwill et al. (2007) noted that professional development is essential to effective implementation and sustainability of any systems change. The effective implementation of an RTI framework requires schools to provide

targeted, intense, and continual training, collaboration and support, and administrative follow through (Kovaleski, 2007). While most studies indicate that implementing an RTI framework is a challenge for all stakeholders, school systems must recognize that it will take a concerted effort to make a successful transition to that RTI framework. Acknowledging the historical prevalence of top-down models of educational reform, Hargreaves and Shirley (2009) propose an alternative, suggesting that “inspiring purposes developed and achieved with others are the foundations of successful and sustainable educational change” (p. 75).

Summary

The research supporting the implementation of an RTI framework highlights the use of a specific process for the delivery of instruction, the use of data to make informed instructional decisions, and the use of research validated intervention strategies to remedy student deficits and identify struggling learners (Compton, 2006; Fletcher et al., 2004; Hojnoski et al., 2009; Johnson et al., 2006; Stecker et al., 2008; Stuart & Rinaldi, 2009). This reformation of the traditional classroom structure requires regular education teachers to have a specific range of knowledge to successfully implement an RTI framework. Specifically, regular education teachers require professional development in order to implement new initiatives as instructed by district and state personnel. Successful reform depends on the clarity of purpose, activities and outcomes set by the individuals involved in the reform process.

CHAPTER 3

METHODS

This research was an evaluation of the knowledge and perceptions of teachers in regards to the Response To Intervention (RTI) framework. The purpose of the study was to evaluate teachers' perceived knowledge of the RTI framework, their perceptions regarding the progress-monitoring process, their perceptions of the professional development opportunities offered by their school systems to prepare them for the implementation of an RTI framework, and their perceptions of the effect of the RTI framework on the academic growth of their at-risk students. In order to effectively research the problem, the researcher conducted a nonexperimental quantitative design study.

The research design describes the procedures a study used. These procedures include identifying a plan to produce data that was used to answer the research questions (McMillan & Schumacher, 2010). Creswell (2009) described quantitative research as a method for testing objective theories through an examination of the relationships among variables. For the purpose of this study, the quantitative research design was further refined to the subclassification of nonexperimental research design. According to McMillan and Schumacher (2010) a "non experimental research design describes phenomena and examines relationships between different phenomena without any direct manipulation of conditions that are experienced" (p. 22). This nonexperimental design used a survey to evaluate the perceptions of teachers in four Upper East Tennessee regarding the Response To Intervention (RTI) framework as designed by the Tennessee State Department of Education.

Research Questions and Null Hypotheses

The nonexperimental quantitative design guided the following research questions and null hypotheses.

Research Question 1: To what extent do regular education teachers perceive they understand the Response to Intervention framework?

Ho1: Regular education teachers do not perceive they understand the Response to Intervention framework to a significant extent.

Research Question 2: To what extent do regular education teachers perceive they understand the progress-monitoring process?

Ho2: Regular education teachers do not perceive they understand the progress-monitoring process to a significant extent.

Research Question 3: To what extent do regular education teachers perceive their readiness for the implementation of the RTI framework?

Ho3: Regular education teachers do not perceive their readiness for the implementation of the RTI framework to a significant extent.

Research Question 4: To what extent do regular education teachers perceive the effectiveness of the professional development opportunities offered to them for the implementation of an RTI framework?

Ho4: Regular education teachers do not perceive the effectiveness of the professional development opportunities offered to them for the implementation of an RTI framework to a significant extent.

Research Question 5: To what extent do regular education teachers perceive the effectiveness of an RTI framework on the academic growth of at-risk students?

Ho5: Regular education teachers do not perceive the effectiveness of an RTI the implementation of an RTI framework on the academic growth of at-risk students to a significant extent.

Instrumentation

Quantitative data were collected by means of a survey, which was developed by the researcher based on the reviewed literature. The survey was field tested to establish the content validity of the instrument and to improve the questions used and the format of the instrument. The survey instrument consisted of 35 statements requesting respondents to indicate their degree of agreement on a 5-point Likert scale ranging from strongly disagree to strongly agree along with five items used to gather demographic information. The demographic questions focused on factual information, including gender, education level, grade level the participant taught during the 2012-2013 school year, amount of teaching experience in the participant's current school system, and amount of overall teaching experience. According to McMillan and Schumacher (2010) evidence based on test content demonstrates the extent to which the questions in the instrument are representative of the domain of knowledge being measured. Content validity for this study was established by administering the survey instrument in a January 2013 pilot study in Washington County (TN) School District to a group of 15 purposefully selected elementary teachers who were currently working in a teaching position and were trained in using an RTI framework. The pilot group suggested modifications to the survey instrument including an enhanced definition of the term fidelity and providing a list of specific examples describing professional development opportunities to help teachers determine if they had in fact received professional development covering the RTI framework.

Population

The participants of this study were a sample of Kindergarten, First, Second, and Third grade regular education teachers employed in four Upper East Tennessee school systems. A convenience sampling of participants was used for this study in an effort to extrapolate generalized information from local regular education teachers. Hultsch, MacDonald, Hunter, Maitland, and Dixon (2002) noted in their study comparing the sampling and generalizability of convenience and random samples that their results “suggest that relatively small structured samples of convenience may, in some cases, yield results that look remarkably similar to those obtained with much larger samples selected using random sampling strategies” (p. 358). The most recent data showed the total student enrollment for the four school districts surveyed during the 2011-2012 school year as follows: Bristol City Schools ($N= 3,781$), Carter Co. Schools ($N=5,365$), Elizabethton City Schools ($N= 2,296$), and Unicoi Co. Schools ($N= 2,534$). The total population of teachers who were given the opportunity to participate in this study ($N= 246$) varied in experience, ranging from first year teachers to teachers with over 30 years of teaching experience. Each participating school system implements the State Department of Tennessee’s Rules and Regulations governing LD identification. The participants’ knowledge of the implementation of an RTI framework through professional development opportunities and implementation of an RTI framework ranged from teachers with no training to teachers with over 4 years of training.

Data Collection

Permission to conduct research was obtained from the Institutional Review Board (IRB) of East Tennessee State University, Dr. Pamela Scott (the chair of the ELPA department), and the Directors of School of each participating school system. A survey instrument with 40

statements was developed and distributed to the participants via Survey Monkey, an internet based survey service. The first stage of the study consisted of data collection through the use of the online survey. The distribution list included all regular education Kindergarten, First, Second, and Third grade teachers in Carter County, Unicoi County, Elizabethton City, and Bristol City, TN school systems. All members of this group were contacted via email to voluntarily participate in the study with a link to the survey site provided along with a statement regarding confidentiality. Participants were advised that the survey would permit them to skip a statement or question if that statement or question made them uncomfortable to answer. Confidentiality was ensured because no personally identifiable information was collected as part of the online survey instrument.

Data Analysis

Data from this research were analyzed through a nonexperimental quantitative methodology. To find the statistical calculations of this study, data were obtained through the administration of the survey instrument. Statistical Package for Social Sciences (SPSS) Version 20.0 data analysis software was used for all data analysis procedures in this study. The data sources that were analyzed consisted of a survey design using a 5-point Likert scale. Each research question had a corresponding null hypothesis. Each hypothesis was analyzed with a series of one-tailed single sample *t*-tests with mid-point of the scale (3.0) as the test value representing neutrality. All data were analyzed at the .05 level of significance. Findings of the data analyses are presented in Chapter 4. A summary of the findings, conclusions, and recommendations for future research are presented in Chapter 5.

Summary

Chapter 3 reported the methodology and procedures for conducting the study. After a succinct introduction, a description of the research design, selection of the data sources, data collection procedures, research questions and corresponding null hypotheses, and the consequent data analysis procedures were delineated.

CHAPTER 4

FINDINGS

The purpose of this study was to investigate the perceptions of K-3 regular education teachers of the Response to Intervention framework. Participants of the study included 246 K-3 regular education teachers from four Northeast Tennessee school systems. In this chapter data were presented and analyzed to answer five research questions and five null hypotheses. Data were analyzed from a 40-question survey measured on a 5- point Likert-type scale. Data were retrieved following the execution of the survey (Appendix C) through an online survey format. The survey was distributed two times with a 42% return rate for a total of 104 participants. Archer (2008) noted in his study of 84 online surveys that although response rates vary greatly depending upon the intent of the survey the average response rate was 48% while Hamilton's 2009 meta-analysis of 199 online surveys found an average response rate of 33%.

Research Question 1

Research Question 1: To what extent do regular education teachers perceive they understand the Response to Intervention framework?

Ho1: Regular education teachers do not perceive they understand the Response to Intervention framework to a significant extent.

A one-tailed single sample *t*-test was conducted on regular education K-3 teachers' perceptions to evaluate whether the mean score was significantly different from 3.0, the value representing neutrality. The sample mean of 4.02 (*SD* = .44) was significantly higher than 3.0, $t(103) = 23.81, p < .001$. Therefore the null hypothesis Ho1 was rejected. The 95% confidence interval for K-3 regular education teachers' perceptions mean ranged from 4.00 to 4.04. The strength of the relationships between the K-3 regular education teachers' perceptions and the

mean score effect size d of 2.32 indicates a large effect. The results indicated the respondents had a significantly positive perception of their knowledge of the RTI framework. Figure 1 shows the distribution of the participant responses. The frequency reported within each graph represents the number of participants who designated a 1, 2, 3, 4, or 5 on the online survey.

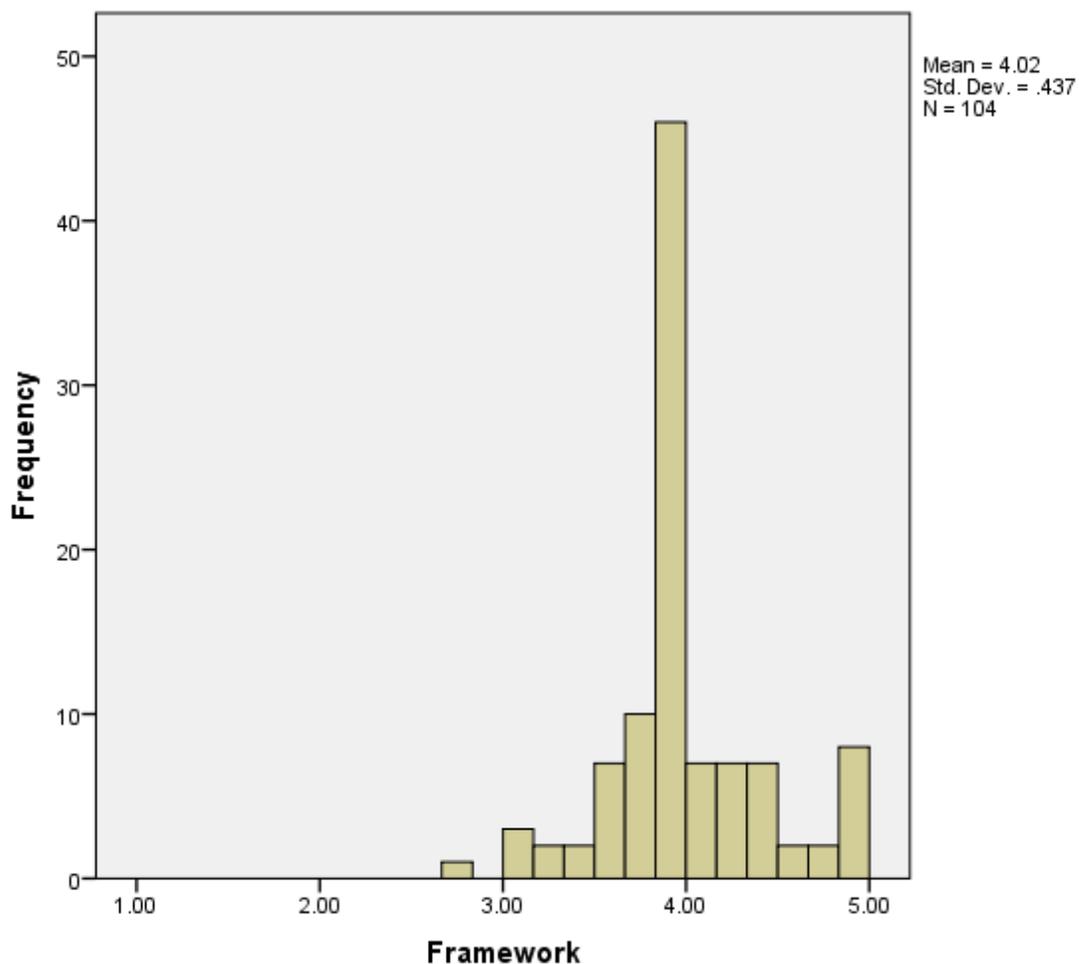


Figure 1. Distributions of the K-3 regular education teachers' responses. In order to determine K-3 regular education teachers' perceptions, responses to the following items were analyzed from the survey: 6, 7, 8, 9, 10, 11, and 12.

Research Question 2

Research Question 2: To what extent do regular education teachers perceive they understand the progress-monitoring process?

Ho2: Regular education teachers do not perceive they understand the progress-monitoring process to a significant extent.

A one-tailed single sample *t*-test was conducted on regular education K-3 teachers to evaluate whether the mean score was significantly different from 3.0, the value representing neutrality. The sample mean of 3.93 ($SD = .60$) was significantly higher than 3.0, $t(103) = 15.87$, $p < .001$. Therefore the null hypothesis Ho2 was rejected. The 95% confidence interval for K-3 regular education teachers' perceptions mean ranged from 3.89 to 3.97. The strength of the relationships between the K-3 regular education teachers' perceptions and the mean score effect size d of 1.56 indicates a large effect. The results indicated the respondents had a significantly positive perception of their knowledge of the progress-monitoring process. Figure 2 shows the distribution of the participant responses. The frequency reported within each graph represents the number of participants who designated a 1, 2, 3, 4, or 5 on the online survey.

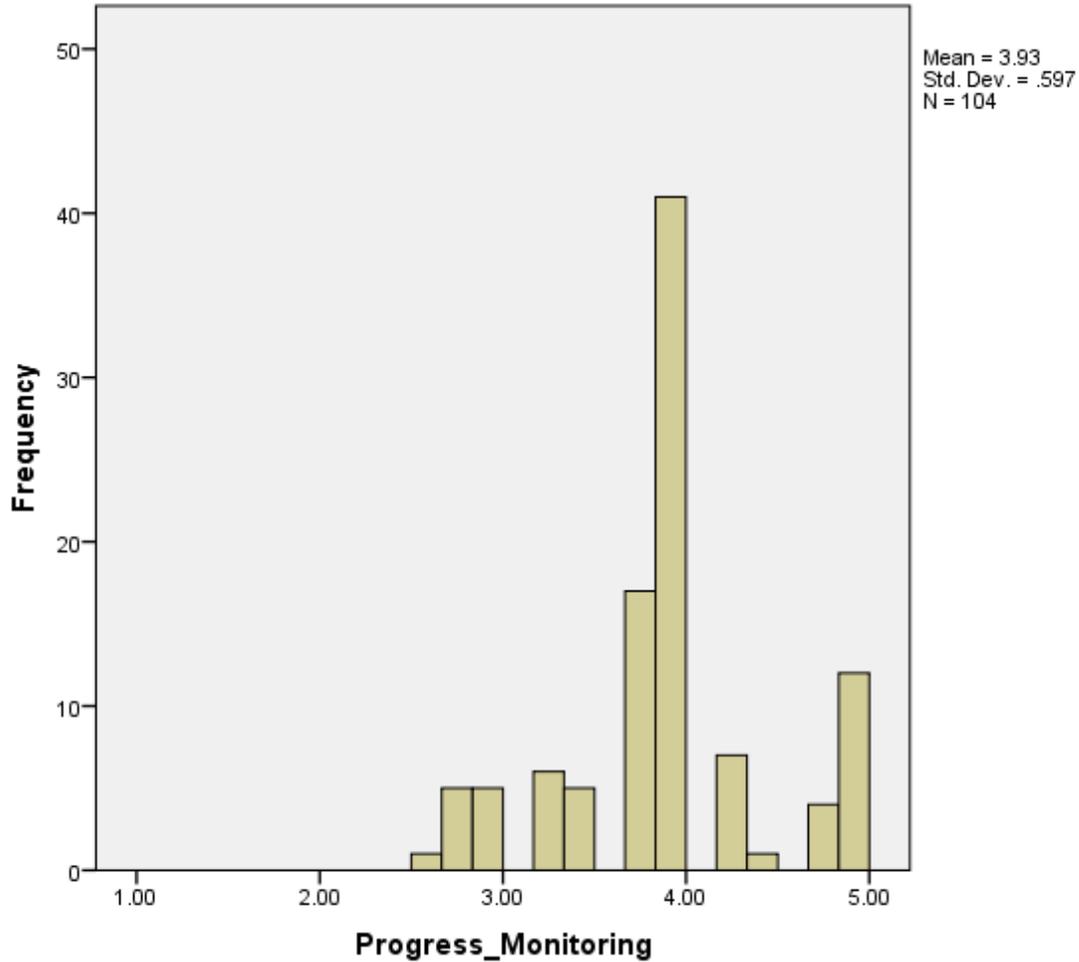


Figure 2. Distributions of the K-3 regular education teachers' responses. In order to determine K-3 regular education teachers' perceptions, responses to the following items were analyzed from the survey: 13, 14, 15, 16, 17, and 18.

Research Question 3

Research Question 3: To what extent do regular education teachers perceive their readiness for the implementation of the RTI framework?

Ho3: Regular education teachers do not perceive their readiness for the implementation

of the RTI framework to a significant extent.

A one-tailed single sample *t*-test was conducted on regular education K-3 teachers to evaluate whether the mean score was significantly different from 3.0, the value representing neutrality. The sample mean of 3.39 (*SD* = .72) was significantly higher than 3.0, $t(103) = 5.51$, $p < .001$. Therefore the null hypothesis H_03 was rejected. The 95% confidence interval for K-3 regular education teachers' perceptions mean ranged from 3.33 to 3.43. The strength of the relationships between the K-3 regular education teachers' perceptions and the mean score effect size *d* of .54 indicates a medium effect. The results indicated the respondents had a significantly positive perception of their ability to implement the RTI framework. Figure 3 shows the distribution of the participant responses. The frequency reported within each graph represents the number of participants who designated a 1, 2, 3, 4, or 5 on the online survey.

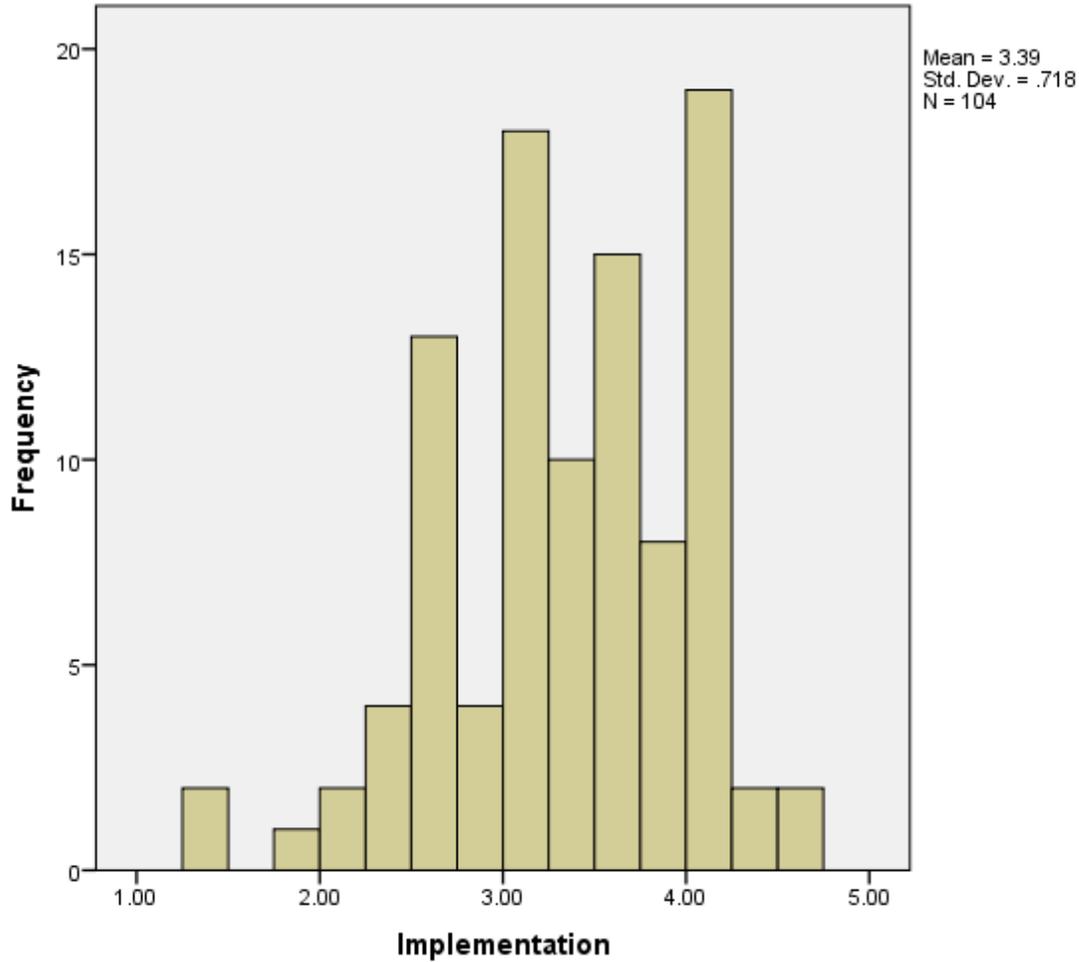


Figure 3. Distributions of the K-3 regular education teachers’ responses. In order to determine K-3 regular education teachers’ perceptions, responses to the following items were analyzed from the survey: 19, 20, 21, 22, 23, 24, 25, 26, and 27.

Research Question 4

Research Question 4: To what extent do regular education teachers perceive the effectiveness of the professional development opportunities offered to them for the implementation of an RTI framework?

Ho4: Regular education teachers do not perceive the effectiveness of the professional development opportunities offered to them for the implementation of an RTI framework to a significant extent.

A one-tailed single sample *t*-test was conducted on regular education K-3 teachers to evaluate whether the mean score was significantly different from 3.0, the value representing neutrality. The sample mean of 3.32 (*SD* = .80) was significantly higher than 3.0, $t(53) = 4.14$, $p < .001$. Therefore the null hypothesis H_0 was rejected. The 95% confidence interval for K-3 regular education teachers' perceptions mean ranged from 3.24 to 3.38. The strength of the relationships between the K-3 regular education teachers' perceptions and the mean score effect size *d* of .4 indicates a medium effect. The results indicated the respondents had a significantly positive perception of the professional development they had received regarding the RTI framework. Figure 4 shows the distribution of the participant responses. The frequency reported within each graph represents the number of participants who designated a 1, 2, 3, 4, or 5 on the online survey.

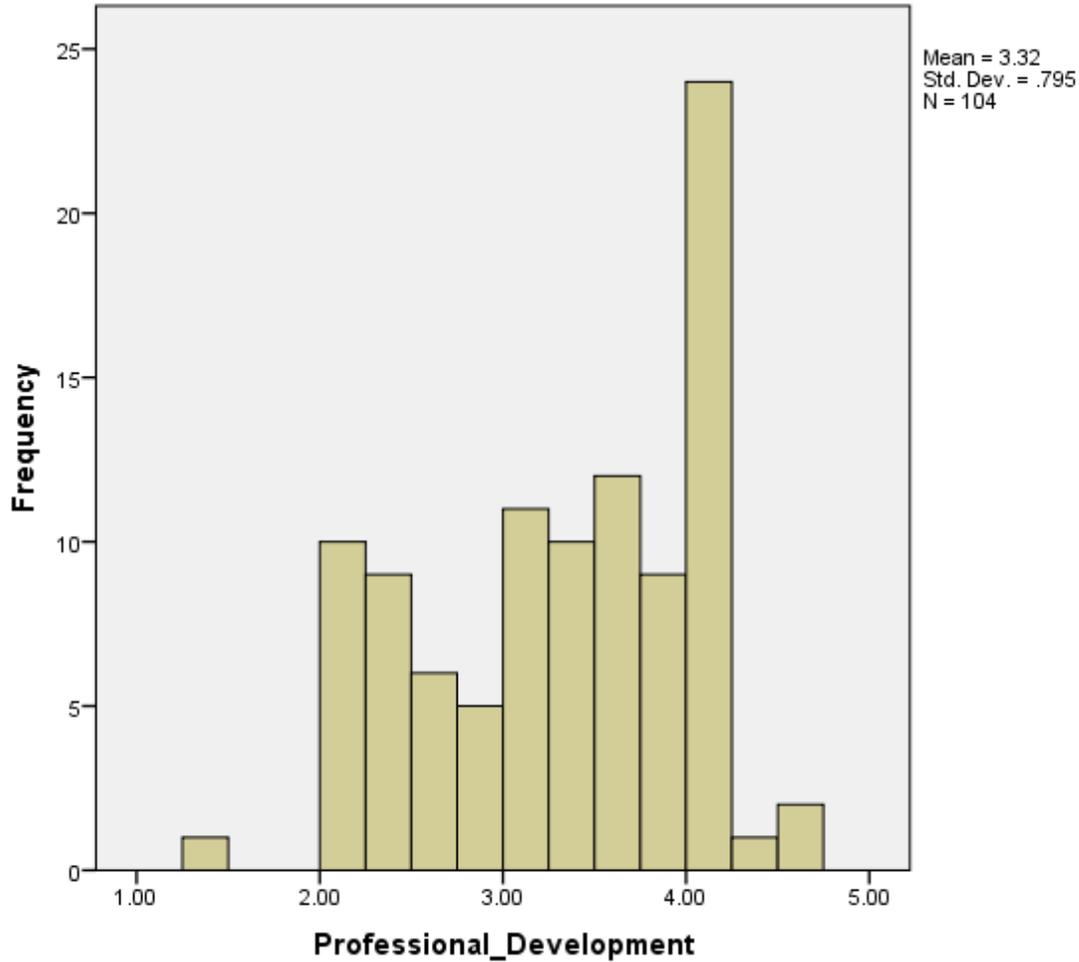


Figure 4. Distributions of the K-3 regular education teachers' responses. In order to determine K-3 regular education teachers' perceptions, responses to the following items were analyzed from the survey: 28, 29, 30, 31, 32, 33, 34, and 35.

Research Question 5

Research Question 5: To what extent do regular education teachers perceive the effectiveness of an RTI framework on the academic growth of at-risk students?

Ho5: Regular education teachers do not perceive the effectiveness of an RTI the implementation of an RTI framework on the academic growth of at-risk students to a

significant extent.

A one-tailed single sample *t*-test was conducted on regular education K-3 teachers to evaluate whether the mean score was significantly different from 3.0, the value representing neutrality. The sample mean of 3.62 (*SD* = .66) was significantly higher than 3.0, $t(53) = 9.51$, $p < .001$. Therefore the null hypothesis H_0 was rejected. The 95% confidence interval for K-3 regular education teachers' perceptions mean ranged from 3.57 to 3.67. The strength of the relationships between the K-3 regular education teachers' perceptions and the mean score effect size *d* of .93 indicates a large effect. The results indicated the respondents had a significantly positive perception of the effect of the RTI framework on their students' academic growth. Figure 5 shows the distribution of the participant responses. The frequency reported within each graph represents the number of participants who designated a 1, 2, 3, 4, or 5 on the online survey.

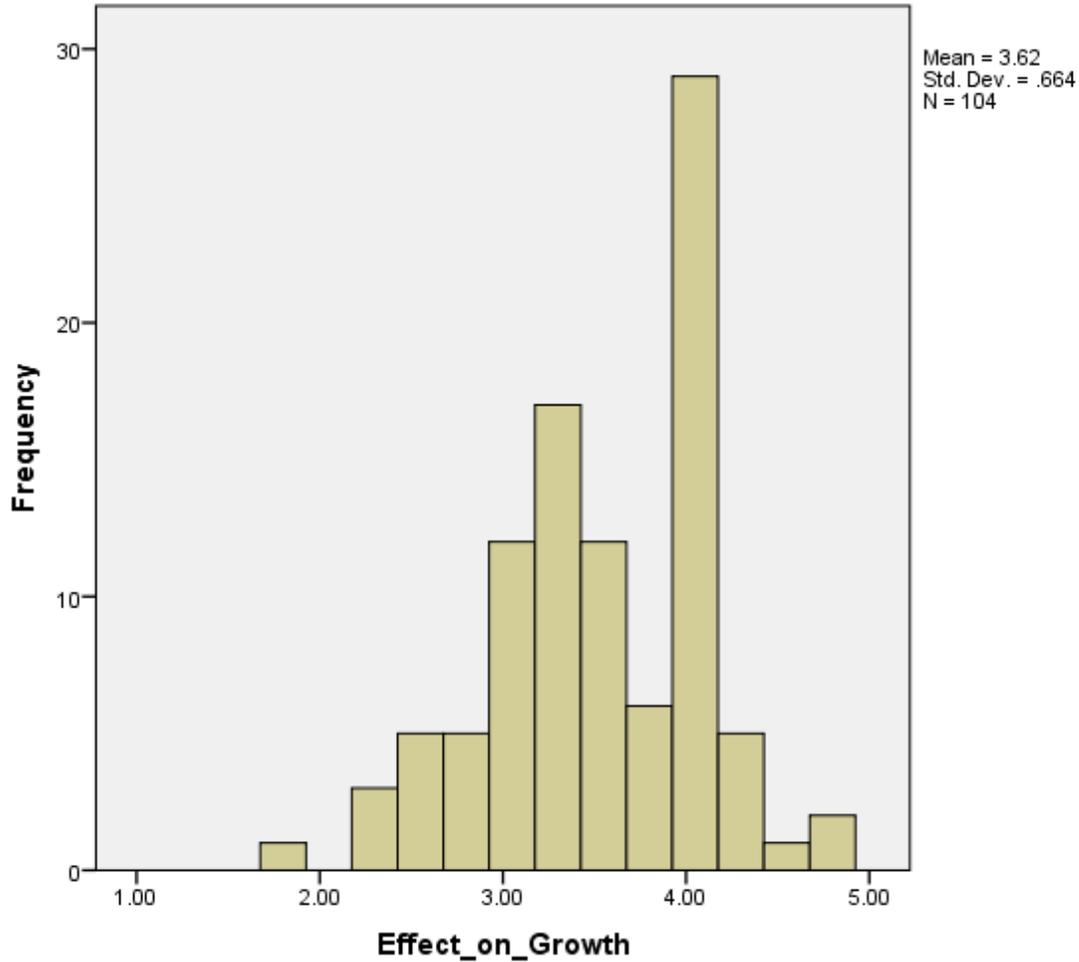


Figure 5. Distributions of the K-3 regular education teachers' responses. In order to determine K-3 regular education teachers' perceptions, responses to the following items were analyzed from the survey: 36, 37, 38, 39, and 40.

Summary

In this chapter data obtained from K-3 regular education teacher participants were presented and analyzed. There were five research questions and five null hypotheses. All data were collected through an online survey distributed to 246 K-3 regular education teachers working in four East Tennessee school systems resulting in a 42% return rate with 104

participant responses. Research question 1 results indicated the respondents had a significantly positive perception of their knowledge of the RTI framework. Research question 2 results indicated the respondents had a significantly positive perception of their knowledge of the progress-monitoring process. Research question 3 results indicated the respondents had a significantly positive perception of their ability to implement the RTI framework. Research question 4 results indicated the respondents had a significantly positive perception of the professional development they had received regarding the RTI framework. Research question 5 results indicated the respondents had a significantly positive perception of the effect of the RTI framework on their students' academic growth.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS FOR PRACTICE, AND RECOMMENDATIONS FOR FUTURE RESEARCH

This chapter contains the findings, conclusions, and recommendations for readers who may use the results as a resource when reviewing and revising Response to Intervention frameworks. The purpose of this study was to investigate K-3 regular education teachers' perceptions of the RTI framework. The study was conducted using data collected through an online survey of K-3 regular education teachers working in four East Tennessee school systems.

Summary

The statistical analysis as shown in the study was based on the five research questions presented in Chapters 1 and 3. In Chapter 3 each research question had one null hypothesis. Each hypothesis was analyzed using a one-tailed single sample *t*-test. The number of K-3 regular education teacher participants in the study was 104. The level of significance used in the test was .05. Findings indicated that participants perceived their overall knowledge of the RTI framework to be significantly positive. The results of this study show a parallel with previous research that indicated many school systems are moving toward large-scale implementation of RTI frameworks where district and school leaders support teachers in making data-informed decisions and making changes in their instructional delivery for all students (Deno et al., 2009; Gallagher et al., 2008; Stecker et al., 2008).

However, some previous research into RTI frameworks and the progressing-monitoring process refutes the findings of this study. Roehrig et al. (2008) noted that research in effectively delivering professional development to teachers and on the use of progress-monitoring data to improve student outcomes is needed, while Begeny and Martens's (2006) research indicated

regular education teachers' perceptions of their training to address differentiated instruction and progress-monitoring data collection and use in the regular education classroom was insufficient to prepare them for implementing an RTI framework. Gallagher et al. (2008) found that most regular education teachers do not possess the formal knowledge or training to collect and interpret formative assessment data nor to implement appropriate interventions based on those data. In addition, Hoffman et al. (2009) stated that regular education teachers lack the requisite skills to implement effective progress monitoring resulting in a barrier to identifying a connection between regular classroom assessments and regular classroom instruction.

Conclusions

The purpose of this study was to investigate K-3 regular education teachers' perceptions of the RTI framework. Specifically, this study was an examination of K-3 regular education teachers' perceptions of the RTI framework as a whole, their perceptions of the progress-monitoring process, their perceptions of their readiness to implement an RTI framework, their perceptions of the effectiveness of the professional development opportunities they had been provided by their school systems regarding RTI, and their perceptions of the effectiveness of RTI on the academic growth of their at-risk students.

The following conclusions were based upon the findings from the data of this study:

1. A significant difference was found in K-3 regular education teachers' perceptions concerning their knowledge of the RTI framework. The population mean of 4.02 ($SD = .44$) was significantly higher than 3.0, the value representing neutrality. It is also important to note that the population mean of 4.02 is the highest reported through these research findings. The regular education teacher respondents perceived they understand the makeup and the purpose of the RTI framework. These findings validate previous

research indicating regular education teachers understand the key components (benchmark assessment, tiered approach to providing interventions, using RTI to make data informed decisions) of an RTI framework (Hall, 2008; Shores & Chester, 2009). Additionally Compton (2006) noted that RTI frameworks identify the purpose of RTI in terms of what responsibilities regular education teachers have in the process.

2. A significant difference was found in K-3 regular education teachers' perceptions concerning their knowledge of the progress-monitoring process. The population mean of 3.93 ($SD = .60$) was significantly higher than 3.0, the value representing neutrality. The regular education teacher respondents perceived they understand how to collect, analyze, and use progress-monitoring data. These results support previous research that found understanding and correctly using data collected from the progress-monitoring process are essential components in implementing and using an RTI framework (Daley et al., 2007; Hall, 2008). Additionally Deno et al. (2009) noted that one of the foundational elements of an RTI framework is a technically adequate system of screening and progress monitoring of student learning.
3. A significant difference was found in K-3 regular education teachers' perceptions concerning their ability to implement the RTI framework. The population mean of 3.39 ($SD = .72$) was significantly higher than 3.0, the value representing neutrality. The regular education teacher respondents perceive they are ready to implement an RTI framework. The participants' responses indicate that typical barriers to RTI implementation did not negatively impact their ability to use the RTI framework. These results contradict previous research that reported subjects identifying these areas (time, resources, and resistance to change) as barriers to educational change thus making RTI

implementation difficult to achieve (Salaiz, 2004; Tanner, 2004). Additionally Hoffman et al. (2009) noted that regular education teachers often lack the requisite skills to implement RTI measures, resulting in a barrier to identifying a connection between regular classroom assessments and regular classroom instruction.

4. A significant difference was found in K-3 regular education teachers' perceptions concerning the professional development they had received regarding the RTI framework. The population mean of 3.32 ($SD = .80$) was significantly higher than 3.0, the value representing neutrality. The participants' responses indicate that their school systems have provided the necessary professional development opportunities to implement RTI as well as provided time for collaborative efforts between regular and special education teachers. These findings confirm previous research stating that schools are in full support of the RTI framework and have provided professional development opportunities as well as time for regular education and special education teachers to work collaboratively (Mellard & Johnson, 2008; Whitten, Esteves, & Woodrow, 2009). Gilbertson et al. (2007) suggest in implementing an RTI framework regular education teachers need the necessary training for those teachers to begin implementing interventions in the classroom. Kratochwill et al. (2007) also noted that professional development is essential to effective implementation and sustainability of any systems change.
5. A significant difference was found in K-3 regular education teachers' perceptions concerning the effect of the RTI framework on their students' academic growth. The population mean of 3.62 ($SD = .66$) was significantly higher than 3.0, the value representing neutrality. The participants' responses indicate that their use of the RTI

framework positively impacts the academic growth of their students. These results corroborated previous findings that the use of an RTI framework significantly impacts student performance (Telzow, McNamara, & Hollinger, 2000; VanDerHeyden et al., 2005). Buzhardt et al. (2010) found that both large- and small-scale research based studies of RTI frameworks indicate that student outcomes are better for regular education teachers who use progress-monitoring data to inform instruction compared to the student outcomes of those regular education teachers who do not use progress-monitoring data.

Recommendations for Practice

The findings and conclusions of this research have established a foundation for the following recommendations for assisting school systems and their regular education teachers with the implementation and refinement of an RTI framework:

1. The administration and faculty of the school systems that participated in this study should purposefully endeavor to build district level RTI teams that can address implementation issues in each system's RTI framework. The research question addressing implementation had the second lowest mean (3.39) identifying implementation as an area that could benefit from additional support. While overall research findings show K-3 regular education teachers have a positive view of their readiness to implement RTI, the state of Tennessee is mandating the use of an RTI framework created by the state department of education beginning in July of 2014. This new framework will be different from the frameworks already being used in these school systems necessitating training to address the differences between the two frameworks.
2. The administration and faculty of the school systems that participated in this study should purposefully endeavor to build district level RTI teams that can address professional

development issues in each system's RTI framework. The research question addressing implementation had the lowest mean (3.32) identifying professional development opportunities as an area that could benefit from additional support. While overall research findings show K-3 regular education teachers have a positive view the professional development received to use an RTI framework, the state of Tennessee is mandating the use of an RTI framework created by the state department of education beginning in July of 2014. This new RTI framework will be different from the RTI frameworks already being used in these school systems, necessitating new professional development opportunities to address the new procedures being mandated.

3. The school systems involved in this study need to be ready to implement their RTI framework for all students K-12 in Reading, Language Arts, and Mathematics. Currently, collecting progress-monitoring data and using interventions in higher grade levels such as high school and addressing mathematics deficits are the most problematic areas to implement in an RTI framework (Stecker et al., 2005).
4. The district level leadership teams from the four school systems that participated in this research study should work together to assist one another in the implementation of the state department's new RTI framework as this framework will be the same for every school system in Tennessee.

Recommendations for Future Research

The results of this study indicate that overall K-3 regular education teachers' perceptions concerning the RTI framework were positive. Recommendations for future research include a replication of this study with an expansion to include all 17 school systems in Upper East Tennessee. Furthermore this study could be replicated and expanded to include a qualitative

design to investigate practicing teacher's perceptions following the implementation of the new RTI framework.

With an increased measure of accountability for school systems with the RTI framework, a new study could be created that examined if there can be a standardized model to the implementation of RTI across content areas and grade levels. This study could also investigate the issue of how schools sustain their internal capacity to support and maintain RTI procedures after the initial phase of training. Finally, longitudinal studies on the actual students who progressed through the RTI framework should be investigated to determine the long-term success rates of these students.

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APPENDICES

APPENDIX A

Letter to Director of Schools

Mr. Jarrod Adams
123 Mitchell Creek Dr.
Jonesborough, TN 37659

November 6, 2012

Dear Director of Schools,

I am an Ed.D. candidate at East Tennessee State University and am in the dissertation portion of my program. My research is on primary teachers' perceptions of the Response to Intervention framework. I would like permission to survey the K-3 regular education teachers in your district through the use of an online survey. I would like to send an email with a link to the survey asking them to participate. Their participation would be voluntary. Attached is a copy of the survey. Please respond by email at your earliest convenience.

Sincerely,

Mr. Jarrod Adams
Supervisor of Special Education
Washington County Department of Education
ETSU Doctoral Student

Work #: 423-753-1100
Cell #: 423-483-2005
Fax #: 423-753-1149
Email: adamsj@wcde.org

APPENDIX B

Letter to Teachers

January 27, 2013

Dear Teacher,

My name is Jarrod Adams and I am a doctoral candidate in the Educational Leadership and Policy Analysis (ELPA) program at East Tennessee State University (ETSU). I am currently conducting research for my dissertation. The purpose of my study is to identify the perceptions of Kindergarten through third grade regular education teachers in regards to the Response to Intervention (RTI) framework in Tennessee. The committee chairperson for my study is Dr. William Flora, a professor in the ELPA department of the College of Education at ETSU.

Your school system has agreed to participate in this study. As a regular education teacher in either a K, 1st, 2nd, and/or 3rd grade setting, I invite you to complete a survey regarding your perceptions of the RTI framework in place at your school. The survey should take approximately 10 minutes to complete.

Participation in the study is completely voluntary. All response will remain confidential and anonymous. No identifying information will be requested.

I hope you will consider taking part in this study as the results may help area school systems improve the implementation of an RTI framework in their regular education classrooms.

Please complete the survey by February 14th, 2013.

Thank you for your time and consideration of this request. If you have any questions or concerns, please feel free to contact me at (423) 483-2005 or at adamsj@wcde.org.

Sincerely,

Jarrod Adams

Doctoral Candidate

Educational Leadership and Policy Analysis

East Tennessee State University

APPENDIX C

Response to Intervention Teacher Survey

Demographic Information—Please respond to the following demographic questions based on your status during the 2012-2013 school year.

1. What is your gender?
 Male
 Female
2. How many years have you been teaching?
 1-3 years
 4-10 years
 11+ years
3. How many years have you been teaching in your current school system?
 1-3 years
 4-10 years
 11+ years
4. What grade level did you teach during the 2012-2013 school year?
 K
 1st
 2nd
 3rd
5. What is the highest educational level you have attained?
 Bachelor's degree
 Master's degree
 Specialist degree
 Doctorate degree

Please use the following scale to respond to each statement.

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neither Agree nor Disagree
- 4 – Agree
- 5 – Strongly Agree

RTI Framework - Please respond to the following statements regarding your understanding of the Response to Intervention framework.

- 6. I understand the RTI framework. 1 2 3 4 5
- 7. The purpose of the RTI framework is the identification of students with disabilities. 1 2 3 4 5
- 8. Using an RTI framework results in fewer referrals to special education. 1 2 3 4 5
- 9. The tiered approach to intervention within the RTI framework provides interventions to students who are at risk. 1 2 3 4 5
- 10. Progress monitoring data should be used to make instructional decisions. 1 2 3 4 5
- 11. Schools should set and follow realistic expectations for student growth and achievement. 1 2 3 4 5
- 12. Differentiated instruction is used to address the needs of all students 1 2 3 4 5

Progress Monitoring – Please respond to the following statements regarding your understanding of the progress monitoring system.

- 13. Progress monitoring is an essential component in measuring student success using an RTI framework. 1 2 3 4 5
- 14. Benchmark testing of students is a critical component in making data based decisions to improve student performance. 1 2 3 4 5
- 15. Documenting and graphing progress monitoring data is an important aspect of an RTI framework. 1 2 3 4 5
- 16. Progress monitoring data should be collected at least weekly. 1 2 3 4 5
- 17. I have access to my students' progress monitoring data. 1 2 3 4 5

18. I utilize my students' progress monitoring data to change my classroom instruction. 1 2 3 4 5

RTI Implementation – Please respond to the following statements regarding your readiness for implementation of the RTI framework.

19. I feel prepared and confident to implement the RTI framework. 1 2 3 4 5
20. My school utilizes a Student Support Team to facilitate the RTI framework. 1 2 3 4 5
21. Since the implementation of the RTI framework, I have changed my instructional practices in the classroom. 1 2 3 4 5
22. I have time daily to provide small group and one to one instruction for every student in my classroom who needs intervention according to the RTI framework. 1 2 3 4 5
23. The staff in my school implements RTI with fidelity. 1 2 3 4 5
(Fidelity refers to the accurate and consistent provision or delivery of instruction in the manner in which it was designed or prescribed by research findings and/or developers' specifications.)
24. My school has the necessary resources, including personnel, to support and implement an RTI framework effectively. 1 2 3 4 5
25. I have access to appropriate curriculum and materials for interventions when needed. 1 2 3 4 5
26. I am able to correctly gather and assess progress monitoring data. 1 2 3 4 5
27. I use collected progress monitoring data to inform my instructional decisions. 1 2 3 4 5

RTI Professional Development– Please respond to the following statements regarding the effectiveness of the professional development opportunities (workshops, seminars, etc.) offered to you for RTI implementation.

28. My district has provided professional development and support for using an RTI framework. 1 2 3 4 5
29. My district provides ongoing support to sustain the RTI framework. 1 2 3 4 5
30. My district provides opportunities for regular and special education teachers to collaborate. 1 2 3 4 5
31. I have received professional development in collecting progress monitoring data. 1 2 3 4 5
32. I have received professional development in using progress monitoring data to make informed instructional decisions. 1 2 3 4 5
33. I have received professional development in differentiated instruction. 1 2 3 4 5
34. I have received professional development in implementing interventions with students with academic difficulties. 1 2 3 4 5

35. The professional development I have received in regards to the RTI framework helps me to implement the RTI framework with my students. 1 2 3 4 5

RTI Effect on Academic Growth – Please respond to the following statements regarding the effectiveness of RTI on the academic growth of at-risk students.

36. RTI helps my school focus on student performance based on data informed decision making. 1 2 3 4 5
37. RTI has reduced the number of students I refer for special education services at my school. 1 2 3 4 5
38. The percentage of my students who meet benchmarks on formative assessments (DEA, DIBELS, AIMSWeb, etc.) has increased with the implementation of the RTI framework. 1 2 3 4 5
39. I have knowledge and understanding of research based intervention programs available in my school district. 1 2 3 4 5
40. The interventions I utilize throughout the implementation of the RTI framework result in academic growth for my students. 1 2 3 4 5

Thank you for your participation in this study. Your time and thoughtful responses are greatly appreciated.

VITA

JARROD G. ADAMS

- Education: Doctor of Education, Educational Leadership, 2013
East Tennessee State University, Johnson City, TN
- Master of Education, 2003
East Tennessee State University, Johnson City, TN
- Bachelor of Arts, Education, 1994
Florida Atlantic University, Boca Raton, FL
- Associate of Arts, General Studies, 1992
Palm Beach Community College, West Palm Beach, FL
- Professional Experience: Supervisor of Special Education, 2006-present
Washington County Schools, TN
- Special Education Diagnostician, 2000-2005
Washington County Schools, TN
- High School Special Education Teacher, 1999-2000
Washington County Schools, TN
- High School Special Education Teacher, 1997-1998
Kingsport City Schools, TN
- Elementary Special Education Teacher, 1994-1997
Palm Beach County Schools, FL
- Memberships: Tennessee Association for Administrator's in Special Education
North East Tennessee Special Education Supervisor's Association
East Tennessee Special Education Supervisor's Association