RESPONSE TO INTERVENTION IN THE IDENTIFICATION OF READING/LEARNING DISABILITIES
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SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION AT NORTHERN MICHIGAN UNIVERSITY

April 15, 2013

APPROVED BY:

DATE:
Table of Contents

Abstract...........................................................................................................................................3

Chapter 1: Introduction...................................................................................................................4
  RTI Model......................................................................................................................................4
  Identifying Students......................................................................................................................6
  Statement of Problem...................................................................................................................7
  Research Question.......................................................................................................................7
  Definition of Terms......................................................................................................................7

Chapter 2: Review of Literature....................................................................................................9
  Benefits of Response to Intervention.........................................................................................9
  Early Identification......................................................................................................................9
  Reduce Inappropriate Special Education Placements...............................................................13
  More Reliable Process................................................................................................................16

Chapter 3: Results and Analysis Relative to the Problem.............................................................20

Chapter 4: Recommendations and Conclusion..........................................................................24
  Practitioner Recommendations.................................................................................................24
  Areas for Further Research.......................................................................................................25
  Summary and Conclusion..........................................................................................................27

References......................................................................................................................................29
Abstract

This study reviews various articles and was designed to determine the effectiveness of response to intervention and the influence it has on the identification of learning disabilities. This paper gives professionals insight into a comprehensive response to intervention model to identify students with a learning disability. Most studies reviewed contained consistent information supporting the use of RTI. Key areas examined are early identification, reducing inappropriate special education referrals, and the reliability of the response to intervention process. To conclude this study, recommendations and future research suggestions are discussed to help school professionals and administrators maximize RTI success.
**Chapter 1: Introduction**

Many students have struggled to maintain adequate academic progress. The reauthorization of the Individuals with Disabilities Education Act encouraged the use of a child’s response to evidence-based instruction as a formal part of the disability identification process (Fuchs, Fuchs, & Compton, 2012). This new method was called responsiveness to intervention or RTI. The response to intervention model was designed to prevent and remediate reading struggles through effective classroom instruction and increasingly intense interventions. To date, the definition and identification of students with learning disabilities has remained unclear and subjective. Another goal of the RTI model has been the collection of useful data contributing to decision making about students with learning disabilities.

**RTI Model**

Response to intervention is a prevention model that features multiple tiers of reading interventions designed to meet individual needs. Decisions related to intervention are based on student assessment data. RTI is considered a preventative model because the support is introduced to students in the earliest stages of reading development (Justice, 2006). For successful RTI service delivery, five core components exist. The five core components include multi-tier implementation, student assessment and decision making, provision of evidence-based intervention, maintenance of procedural reliability, and development and sustainability of systems-level capacity (Glover & DiPerna, 2007). Multi-tiered implementation provides support to all students at varying levels of intensity based on needs. Student assessment and decision making helps ensure that the progress of at-risk students is monitored and appropriate support is given. Evidence-based interventions maximize students’ opportunity to benefit from services. At
each level of service, fidelity is monitored to minimize the chance of poor intervention implementation.

RTI models typically use a three-tiered approach. In all tiers, student progress is monitored. The results of progress monitoring inform instructional decisions on whether students should stay at the current intervention tier or move to a more or less intensive tier. Each tier must provide the highest quality instruction and the intensity of instruction should increase as the student is moved to higher tiers (Kupzyk, Daly, Ihlo, & Young, 2012). Intensity can be increased in a number of ways including duration, group size, grade level, and instruction.

Tier 1 intervention consists of providing students with research based core classroom reading instruction along with benchmark assessment to determine students who are at-risk for reading difficulties (Denton, 2012). In the early grades, Tier 1 includes explicit instruction in phonemic awareness, phonics, and automatic recognition of high-frequency irregular words. Incorporating effective instructional practices in the general education classroom leads to fewer students requiring intervention. Tier 2 is additional support given to students who are considered at-risk for reading difficulties (Denton, 2012). Interventions are typically provided by general education teachers. General education teachers deliver regularly scheduled small-group instruction within their own classrooms. Other professionals may teach interventions such as reading specialists or other certified teachers. After receiving training and continued coaching from an experienced teacher, paraprofessionals may also provide interventions to at-risk readers. Tier 3 involves the delivery of reading intervention of greater intensity to students with inadequate responsiveness in Tiers 1 & 2. Tier 3 generally is where special education becomes
an option. Given the challenges faced by students in Tier 3, it may be best to provide their interventions in a quiet location outside of the regular classroom.

If students are not making progress within the tiers of RTI, research has shown they may benefit from intense intervention beyond what is available in the general education classroom. These students are referred for special education services when adequate progress is not made. Students often qualify under the category of specific learning disability (Wright & Wright, 2005). The identification of a specific learning disability is based partially on whether the student responds to evidence-based intervention.

**Identifying Students**

A focus in special education, has been on how and when to identify students as having disabilities. This debate centers on the criticism of the use of the discrepancy model and the wait to fail model (Moore-Brown, Montogomery, Bielinski, & Shubin, 2005). The discrepancy model refers to finding a difference between expected performance and actual achievement based on Intelligence Quotient (IQ) and test scores. IDEA 2004 no longer requires students to display a discrepancy between intellect and achievement (Wright & Wright, 2005). Experts recommend schools find a more valid and reliable method of identification. This recommendation is partly due to recent reports indicating the ineffectiveness of the IQ discrepancy model. Oftentimes students are expected to fail before they receive any support. The wait to fail model results in later grade referrals, which ultimately delays intervention and necessary academic support. Later identification results in a wider achievement gap. As a result, struggling students make minimal gains and stay in special education (Fletcher, 2004). Delaying support is a disservice to students, therefore establishing a need for an alternative identification process.
Statement of Problem

Prior to IDEA 2004, students had to show a discrepancy in order to be tested for special education services (Wright & Wright, 2005). As a result, identification occurs too late. Therefore, learning difficulties are hard to remediate. Recent surveys show parents and teachers agree learning disability identification methods take too long (Fletcher, 2004). Another area of concern has been inadequate instruction in the general education classroom. Some students struggle because they do not have the opportunity to excel. Students with reading difficulties benefit when instruction is purposeful and engaging (Denton, 2012). Ultimately, there is a need to reduce the number of children identified as learning disabled due to reading problems (Hazelkorn, 2011). Since the category was established in 1977, the identification of students has increased more than 200% (Vaughn, Linan-Thompson, & Hickman, 2003).

Research Question

To what extent does a response to intervention model help in the identification of reading/learning disabilities in early elementary education?

Definition of Terms

To give the reader better understanding, terms are defined below. Definitions were obtained through various research sources.

Response to intervention. A framework that uses tiers of high-quality, evidence-based instruction to meet diverse needs. RTI may be used to identify and prevent learning difficulties (Bender & Shores, 2007, p.7; Hoover, 2010).
Tiered model. The varied instruction delivered to students based on student difficulties (Shapiro, 2011).

Intervention. Additional support to the general education curriculum that meets student needs (Mesmer & Mesmer, 2008).

Discrepancy model. A guideline, based on the 1977 federal regulations, for determining a specific learning disability based on a difference between intellectual functioning and achievement (Fletcher, 2004; Mesmer & Mesmer, 2008).

Specific learning disability. IDEA defines SLD as “A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations (IDEA 2004, 2010).”

Individuals with disabilities education act. “IDEA is the federal law that secures special education services for children with disabilities from the time they are born until they graduate from high school. This law originated as a way to ensure that students with disabilities receive an appropriate public education” (IDEA 2004, 2010).

Prereferral intervention process. The process of changing instruction prior to referring students for special education to help meet the needs of low performing students (Moore-Brown et al., 2005).

Tertiary intervention. More intense interventions for students showing limited progress with supplemental instruction (Wanzek & Vaughn, 2011).
Chapter 2: Review of Literature

Benefits of RTI

Response to intervention is a process that incorporates both assessment and intervention for the immediate benefit of the student. The potential benefit of an RTI framework is its usefulness for determining responsiveness to instruction and guiding service delivery for students with unmet needs. If early and intensive interventions are provided, reading difficulties can be prevented. RTI has proven to be an alternative approach that emphasizes early intervention with limited or no use of the IQ-achievement discrepancy model and a greater reliance on results.

Early Identification

Foundational literacy skills developed in kindergarten such as knowledge of the alphabet, knowledge of print concepts, print awareness, and phonological awareness prepare students for first grade reading instruction. Identifying at-risk children at the beginning of kindergarten and implementing early intervention can significantly improve their foundational literacy skills (Vellutino, Scanlon, Small, & Fanuele, 2006).

In support of making early identification and treatment more specific, three low-income Title I schools participated in a research study to determine the feasibility of using a response-to-treatment model when identifying students with learning disabilities (Vaughn et al., 2003). Forty-five second graders received daily supplemental reading instruction by four trained female tutors. Instruction was provided in 10-week increments for a total of 30 weeks. Students were taught in small groups of three. Interventions concentrated on the following five reading development components: phonemic awareness, phonics, fluency, comprehension, and spelling.
Formal and informal progress monitoring occurred during treatment sessions. To ensure consistency, an intervention validity checklist was developed and implemented.

Trained associates administered all measures to students individually. The Texas Primary Reading Inventory (TPRI) was the screening assessment used to identify students who may need the supplemental instruction in reading. The Woodcock Reading Master Test Revised (WRMT-R) and the Comprehensive Test of Phonological Processing (CROPP) were given before and after the treatment. The Test of Oral Reading Fluency (TORF) was given four times, prior to treatment and after each 10-week increment of treatment. If unable to meet pre-established exit criteria after 10-weeks of instruction, students continued daily supplemental reading instruction. Lessons were modified to individual student levels during the third 10-week session of intervention.

After only 10-weeks of intervention, all groups of students more than doubled TORF fluency scores from the baseline measure. The mean score for the early exit group went from 32.50 at baseline to 63.80 after 10-weeks. Similar results were found for the mid-exit group, the late exit group, and the no exit group. Although gains continued to be made, the most prominent achievements were made early in treatment. This study showed the importance of early intervention and the advantages of using an RTI model (Vaughn, et al., 2003).

To evaluate the usefulness of identifying at risk children on entry into kindergarten and early intervention to prevent long-term reading difficulties, a five-year longitudinal study was conducted in upstate New York (Vellutino et al., 2006). At the beginning of kindergarten, 1,373 children were screened and approximately 30% were identified as at-risk. Results indicated performance well below the not-at-risk group. Two groups, a project treatment group and a
school-based comparison group were randomly assigned. At the beginning, the groups were not noticeably different on any measure. The school-based comparison group was made-up of students from participating schools who chose to offer their own intervention. The project treatment group met twice a week for 30 minutes in small groups with a certified teacher. Remedial activities focused on foundational literacy skills. Screening measures were readministered three times throughout the year. Experimental tests were also administered. Screening measure results were meaningful and experimental test results were marginal. However, effect sizes favored the project group.

Both groups were reevaluated at the beginning of first grade to distinguish continued need for remedial services. Of the kindergarten project treatment group, 50% qualified as poor readers; however, 60% of the school-based comparison group qualified. When schools that did not offer a kindergarten response to intervention program were considered, 80% qualified as poor readers. This study indicated the kindergarten intervention program to be a success in reducing the number of children who qualified as having reading difficulties in first grade (Vellutino, 2006).

To advance the understanding of intervention initiated in kindergarten, a longitudinal study of student performance was conducted across a 4-year period from kindergarten through grade three (Simmons, Coyne, Kwok, McDonagh, Harn, Kame’enui, 2008). Measures included subtests of the Woodcock Reading Mastery Test-Revised (WRMT-R), the Peabody Picture Vocabulary Test-Revised (PPVT-R), and Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The original sample consisted of 117 students. The sample lessened each school year due to the transitory nature of the population. At the end of kindergarten 88 at-risk children
remained; 71 at the end of first grade; 60 at the end of second grade; and 41 at the end of third grade. Analyses on the cohort of 41 students who participated all four years were conducted.

Kindergarten screening took place in the fall to evaluate need. Students who fell below the 30th percentile were identified as at-risk and received supplemental intervention. If benchmark scores were met, students discontinued from intervention. Additional measurement periods included fall and spring of each academic year. In third grade, only the oral reading fluency assessment was administered in the fall and then full measures in the spring. Across the four-year period, beginning reading skills were the focus of intervention sessions. On average, small group supplemental intervention sessions occurred 30-45 minutes daily with certified teachers or highly trained paraprofessionals. The kindergarten interventions compared a highly explicit, code-emphasis intervention (HE-C) with a highly explicit code-and comprehension-emphasis (HE-CC), and moderately explicit code-emphasis (ME-C). Student performance in the HE-C condition was higher on measures in reading and spelling and more effective for students who started with the lowest scores. DIBELS data showed average performance for at-risk students participating in kindergarten intervention. The majority of students were no longer at-risk by the end of kindergarten on all WRMT-R measures.

This study found that not only did the at-risk students move out of risk, but they also stayed out of risk during the four-year period. In order to improve later reading proficiency, students should develop strong positive reading paths by the end of kindergarten and enhance skills in first grade. It appears that early, high-quality, small-group, code-focused intervention benefits the majority of children identified at risk of reading difficulties.
Reduce Inappropriate Special Education Placements

Special education reforms profoundly affect the vast majority of students demonstrating reading difficulty because the largest groups are those with learning disabilities (Gersten & Dimino, 2006). In past practice, few interventions recommended by Student Study Teams were data based. They were typically anecdotal descriptions. Now interventions suggested within an RTI model are connected to the core-reading program. With RTI, a practical, data-based picture has been given to show student response to instruction. Linking student response to instruction motivates teachers, ultimately, reducing the number of nonresponders and inappropriate referrals.

An urban school district with 96% minority students was interested in whether an RTI approach could prevent upper elementary students from being identified and labeled as having disabilities (Moore-Brown et al., 2005). Over a two-year period, 123 students participated in a quasi-experimental research study where they received daily systematic reading instruction. The program lasted nine weeks, totaling 45 hours of instruction. Using scientifically based reading strategies, interventions were created to integrate the five building blocks of reading during each session. To utilize special education resources and have consistent program delivery, resource specialists (RSs) and SLPs were selected as early intervening service providers.

A pre- to posttest measure was used to evaluate the effectiveness of the short-term intensive reading intervention program. The GRADE and the California Standards Test (CST) were used due to the short period of time. The GRADE was administered one week before intervention began and at the end of the nine weeks. The CST was analyzed as an external measure of the students’ response to intervention. A comparison group helped interpret the
achievement gains. The comparison group was chosen based on reading achievement rather than grade level.

Nearly identical results were found between two different school years. ELL students were as successful as English only (EO) students. A substantial gain (65% of the year’s reading) in reading achievement took place during the 9-week (25% of the year) intervention period. The study found that students were able to progress due to comprehensive, intensive small group instruction. The students did not have to wait to fail. Of the 123 original students, only eight were identified for services after the RTI program was completed (Moore-Brown, 2005).

To determine the effects of a three-tier reading prevention model on the percentage of students identified for special education, a Southwest district with a large minority population, collected data on three cohorts of students in grades K-3 for five years (Wanzek & Vaughn, 2011). Cohort I consisted of 222 students who received typical classroom instruction and interventions, representing the control group. Cohort II, the first treatment group, comprised of 279 students who were provided primary, secondary, and tertiary interventions representing the 1st year of implementation. The second treatment group of 275 students, Cohort III, also received primary, secondary, and tertiary interventions representing the 2nd year of implementation of the three-tier model. Intervention lasted 13 weeks, 26 weeks, or 39 weeks depending on student progress.

Primary interventions were implemented in the classroom. Secondary interventions in kindergarten and first grade consisted of 30 minutes of daily instruction in small groups of four to six students. Second graders not meeting criteria qualified for tertiary intervention with greater intensity. Intervention groups consisted of two to four students who received 50 minutes of daily
instruction for 26 weeks. Students who still did not meet criteria received tertiary interventions daily for an additional 26 weeks in third grade.

A trend was found showing decreased special education identification over time. Percentages decreased from 19.37 to 17.56 to 14.18 throughout the three years. The study also showed significant growth in reading made by at-risk students, reducing the number of at-risk students as time went on.

A meta-analysis of research was designed to explore effectiveness and outcomes associated with currently practiced RTI models (Burns, Appleton, & Stehouwer, 2005). Three questions were addressed including what percentage of students were considered to have a disability under an RTI model. Various terms were searched and only articles focusing on RTI or one of the four similar models were selected. The reference lists from the twenty-one articles helped increase the pool to thirty-one articles. Finally, articles were narrowed using criteria such as intervention, measure, unit of analysis, comparison group, and comparative quantitative data. The meta-analysis included twenty-one articles that met inclusion criteria.

Students who were identified as LD within the RTI studies were compared with the general population. In the studies examining schools using an RTI model, typically, less than two percent of the student population were identified as LD. Previous studies had estimated five percent of the school-aged population had a learning disability. When comparing the percentages, it appears fewer students were identified as LD within the implementation of various RTI models.
More Reliable Process

The purpose of response to intervention is not only to provide early intervention, but also to develop a more valid procedure for identifying students with reading disabilities (Gersten & Dimino, 2006). Teachers understand the straightforward framework behind RTI, rather than the pre-referral intervention process. Teachers can no longer refer out students with suspected learning difficulties. RTI emphasizes accountability in the general education classroom (Hollenbeck, 2007). Students are assessed and data-based instructional decisions are made. Interventions begin at the classroom level, therefore giving students the opportunity to respond. By providing intervention at the classroom level, teachers can identify students who continue to fall behind. These students may need intervention that is more intensive. Due to lack of progress in the classroom after typical instruction and intervention support, a referral could be made. This focus will eliminate poor instruction in eligibility decisions.

To evaluate prevention and long-term reading difficulties, Vellutino and colleagues (2006) followed the progress of the kindergarten intervention group into first grade. Progress was analyzed for students who were considered poor readers at the start of first grade even after receiving kindergarten intervention. Data was also reviewed for the students who received kindergarten intervention and were no longer at-risk (NLAR) at the beginning of first grade. Poor readers were divided into two groups, difficult to remediate (DR) and less difficult to remediate (LDR). A low performing trend across groups was evident after screening measures were administered. The NLAR group performed as well as normal readers on all screening measures supporting RTI as a reliable intervention process.
Reading achievement was measured at the end of first, second, and third grade. Difficult to remediate students continued to score at the lowest levels on all measures. Students in the LDR and NLAR groups continued to achieve average level scores with performance nearing normal readers by the end of third grade. RTI was effective at determining students who needed early support to prevent further reading difficulties and students with more severe needs. RTI appears to be a reliable process for remediating and preventing reading struggles in at-risk children.

In order for all students to acquire adequate reading skills certain conditions must be followed (Torgesen et al., 2001). This study sought to investigate whether students with reading disabilities would benefit from intense tier three reading intervention. Sixty children with learning disabilities ages eight to ten years old participated in a three year study. All students were at least 1.5 standard deviations below average on subtests of the Woodcock Reading Mastery Test-Revised. The students were also below grade level on a phonological awareness measure. Each year ten students were assigned to one of two intervention groups; Auditory Discrimination in Depth Program (ADD) and Embedded Phonics (EP). Eighty one percent of the ADD group and seventy one percent of the EP group were also diagnosed with attention deficit hyperactive disorder.

Baseline data included ten pretest assessments. Intensive intervention consisted of two 50-minute one-on-one sessions five times per week for a duration of eight to nine weeks. After intense intervention, an eight-week generalization training consisted of intervention one time per week for 50 minutes. Post-test assessments were administered at the conclusion of intervention. The post-test findings discovered approximately 40% of the children were no longer in need of
special education. To monitor progress, follow-up assessments were given at one and two year intervals.

Although some students continued to stay two standard deviations behind for text processing rate, it is important to emphasize the gains in fluency on two difficult passages. From pretest to the two-year follow-up test, reading rates more than doubled. Rate changed from 38 to 101 words per minute while errors dropped from ten to two. The second passage rate changed from 42 to 104 words per minute, while errors dropped from six to one. ANOVA data analysis showed statistically significant growth in standard scores in all reading measures from pre-test to post-test. The follow-up results showed a standard score decline on one test, gains on three tests, and stable scores on four tests, depicting RTI methods to be reliable even after interventions have ended.

To determine predictive variables of later reading, 668 students across Oregon and Texas were selected for a longitudinal, retrospective study with a goal to accelerate outcomes (Chard, et al., 2008). At-risk readers were identified reliably in either kindergarten or first grade to predict reading proficiency at the end of third grade. Remediation started within schools implementing evidence-based reading practices. Students were selected based on screening scores on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). Several other measures were used throughout the study.

Growth modeling results were curvilinear from spring of first grade to spring of third grade on oral reading fluency (ORF). Gains were bigger from first to second than second to third grades suggesting the deceleration in ORF across grades due to the development in reading from learning to read to reading to learn. The RTI process helped determine which students were in
need of more intensive support outside of the general education classroom. Eventually only 133 students, or 20% of the original sample, qualified for special education services. The power of using early literacy measures appears to be a reliable and predictive method to identify students who need additional support (Chard, et al., 2008).
Chapter 3: Results and Analysis Relative to the Problem

Research indicates schools are moving toward implementing a response to intervention model for providing support to students. Less research is available on using RTI as special education referral criteria. Studies used throughout this paper were evaluated to determine the extent of a response to intervention model in the identification of students with learning/reading disabilities. Trends and limitations were found through analyzing data pertaining to RTI as a referral model. Providing students early support optimizes reading growth and allows struggling students to receive assistance before experiencing recurrent failure. Response to intervention provides support to all students, with increased intensity for the students who need support the most. With tiered support, RTI ultimately reduces referrals for students who need special education services.

Researchers have provided evidence in support of early intervention (Chard et al., 2008; Simmons et al., 2008; Vaughn et al., 2003; Vellutino et al., 2006). Response to intervention was found to be beneficial in helping eliminate the need for future support when interventions were provided at an early age. Students participating in early interventions may no longer need support at the end of kindergarten. Similarly, early intervention programs can reduce the number of students who have difficulties in future grades. Within RTI, highest gains are made near the beginning of treatment (Chard et al., 2008; Vaughn et al., 2003). Progress is minimal and the gap widens when students are not provided with early support.

In some studies reviewed, many students also remained out of risk during the follow-up periods. On the other hand, some studies did not provide follow-up data to determine the long lasting effects of RTI. The lack of follow-up data results in the inability to conclude whether
early RTI provided long lasting results, or if students eventually needed more support. Longitudinal studies provide a better picture of the effects of an RTI model. RTI at an early age can maximize success and provide adequate opportunities for students. In Vellutino’s (2006) research, half of the kindergarten treatment group no longer qualified as poor readers at the beginning of first grade, strengthening the idea students progress quickly and may not need additional supplemental support with RTI.

Within the implementation of RTI, fewer students were identified as needing special education services (Burns et al., 2005; Moore-Brown et al., 2005; Wanzek & Vaughn, 2011). Special education percentages were lower and increased success occurred when highly trained professionals were delivering interventions. Consistent program delivery contributed to intervention success. Due to the consistency of RTI in meeting individual needs of students, the percentage of special education referrals in intervention groups is lowering. In comparison, the schoolwide percentage of special education referrals in schools implementing RTI is also significantly less than the nationwide average (Burns et al., 2005). Special education referrals continue to decrease over time, as shown in Wanzek & Vaughn’s longitudinal study. In contrast, Moore-Brown did not provide data from multiple years, therefore this trend was not supported. The lack of longitudinal data weakens the research and provides implications for future studies.

Research has indicated the response to intervention process helps accurately identify students who need additional support. RTI was found effective when using progress monitoring to measure growth (Chard et al., 2008). Providing high-quality intervention and progress monitoring to struggling readers allowed schools to determine students who needed more intensive support through special education. When highly trained speech and language pathologists and resource specialists provided tier 2 and tier 3 interventions, only six percent of
participants qualified for special education services (Moore-Brown et al., 2005). This trend supports the idea that interventionists need to have adequate training in order to maximize RTI’s success. High-quality teaching needs to precede testing to avoid unnecessary special education placements, which indicates the importance of professional development.

Response to intervention was also found provide consistency (Chard et al., 2008; Torgensen et al., 2001; Vellutino et al., 2006). In reality, there are always students lacking progress even after intense support. Researchers in two different studies note RTI as a valid special education identification model as students who were found difficult to remediate were referred to special education. The large sample sizes of 668 and 412 from the two studies provided evidence for generalization to the school population (Chard et al., 2008; Vellutino et al., 2006). Placing students in performance groups and providing skill-based interventions was found to be reliable in narrowing students who need support outside the general education classroom.

A similarity found amongst the RTI studies was the importance of using evidence-based interventions. Much of the evidence-based instruction included teaching students the foundational literacy skills (Moore-Brown et al., 2005; Torgensen et al., 2001; Vaughn et al., 2003; Vellutino et al., 2006). The majority of RTI studies also included small group daily instruction with baseline and follow-up assessments. In all articles reviewed, response to intervention led to student growth because students who scored low received support and were given the opportunity to make progress (Chard et al., 2008; Moore-Brown et al., 2005; Simmons et al., 2008; Torgesen et al., 2001; Vaughn et al., 2003; Vellutino et al., 2006; Wanzek & Vaughn, 2011).
Differences having an effect on outcomes and validity were also evident amongst all studies. Sample size, participant demographics, length of intervention sessions, and study duration all had a high degree of variance. For example, 41 students participated in Simmons and colleagues’ (2008) study. On the other hand, 776 participants received interventions in Wanzek and Vaughn’s (2011) study. The larger sample size increased research validity and strengthens the conclusion that response to intervention can reduce special education referrals. Participant demographics varied, which helps to support RTI as a beneficial model for low-income schools as well as the minority population (Vaughn et al., 2003; Wanzek & Vaughn, 2011). Intervention session time was wide-ranging from 500 minutes a week to 60 minutes a week (Torgesen et al., 2001; Vellutino et al., 2006). The large gains made by students previously identified with a learning disability provide evidence that longer intervention sessions can have a positive effect not only on student growth but also on eliminating referrals. Another difference was duration, with studies lasting anywhere from 30 weeks to five years. The longitudinal studies allow researchers to analyze if RTI has lasting results and whether it continues to reliably reduce special education referrals over time.
Chapter 4: Recommendations and Conclusion

After reviewing and analyzing current research, several trends suggest recommendations to school professionals on how to successful implement response to intervention as a special education identification model. Areas for future research were also found to better determine what extent response to intervention helps in the identification and prevention of reading/learning disabilities in early elementary school aged students. This chapter discusses these recommendation and areas of future research.

Practitioner Recommendations

In order for response to intervention to be used as an effective referral model, schools should consider using the process as one identification criteria. The use of RTI should not eliminate other aspects of the identification process. Additional information should be gained from other screening methods. By using multiple measures, professionals can develop a clear understanding of students’ difficulties and conclude whether a disability is present. RTI can help eliminate underlying factors, but should not be the sole criteria piece.

The need for professional development is critical and should be designed to keep staff current. Professional development should also provide opportunities to review, discuss and practice skills. By providing professional development, teachers can become more effective. As a result, increased student success can occur. Professional development opportunities should provide instructional best practices, evidence-based interventions, assessment, and progress monitoring. RTI cannot be effective without adequate training. Teachers and staff should not be expected to provide interventions if not highly trained. Teachers need consistent support to implement RTI. RTI requires high quality, evidence based interventions implemented with
fidelity. The expectations of interventionists in the RTI process simply cannot be met without proper instruction and experience.

Finally, strong communication is an essential part of RTI in the identification of learning disabilities. Direct lines of communication need to be in place between teachers, parents, administrators, and interventionists with the school system. Communication is also beneficial between school staff and outside agencies involved. Open communication keeps everyone aware of all factors pertaining to student need. Immediate changes can be made if everyone involved is informed. Ultimately, increased awareness results in improved student outcome.

**Areas for Further Research**

Although research exists, there is a need for further data on implementing RTI as special education eligibility criteria. As stated above, current research data includes a variety of suggested intervention components. Future research could be completed to determine the effect of consistent variables such as duration, fidelity, assessment and progress monitoring. Schools could base RTI programming and tiered interventions off suggested components. Limited information was provided about specific interventions. Knowing the interventions associated with high success would be valuable to professionals implementing RTI. Identifying successful evidence-based interventions promotes reliability in the identification of special education students.

One of the main areas to explore is the effect of professional development and training on intervention success. A component of response to intervention as special education identification criteria is high-quality general education instruction. Deficiencies from a lack of appropriate instruction have to be eliminated before a student can qualify for services. Research needs to be
conducted on effective ways to provide teachers and support staff adequate professional development to enhance RTI. Frequently changing staff and school dynamics challenge the training required. Studies need to be conducted with a research goal of monitoring the effect of professional development on the reliability of RTI as special education identification criteria.

After analyzing various RTI studies, a need for more longitudinal data exists. Some studies were descriptive on student performance throughout interventions, but left the question of how participants performed in future years. By following participant progress, researchers can discover whether benefits of RTI will fade without continued support.

The ideal study would consist of follow-up data to determine whether RTI continues to benefit students after the conclusion of intervention. Subjects would include third grade students at two schools implementing RTI. Participants would include students who received Tier 2 and Tier 3 intervention in kindergarten. Kindergarten intervention tracking should be reviewed in support of whether adequate classroom support was provided. DIBELS benchmark and progress monitoring data would also need to be collected and reviewed in kindergarten and grade three.

One of the goals of RTI is that students receive support early and will no longer require additional support. This study would help analyze whether RTI is reducing the number of Tier 2 and Tier 3 students. Researchers could analyze the given data and determine the percentage of students no longer requiring support after kindergarten intervention. Researchers could also analyze special education referrals to determine the effectiveness of RTI as a piece of the identification process.
Summary and Conclusion

Response to intervention is the latest special education innovation. RTI is an alternative approach for appropriately identifying students with learning disabilities. RTI’s scientific research, although small, is promising for the field of reading. With previous identification models, students are being identified too late, which makes learning disabilities difficult to remediate. Many schools are implementing RTI as a reliable model to provide early support and reduce special education referrals.

Current research indicates response to intervention can have several benefits on the identification of learning disabilities, such as guiding instruction for unmet needs. RTI influences all learners, with an emphasis on improving general education. The elimination of poor instruction must precede special education evaluation. Within properly implemented RTI, progress is usually evident, even if some students are still low performing. Designed to prevent and remediate reading struggles, RTI optimizes student performance early through dynamic, well-implemented measures and interventions. Providing students with the opportunity to progress, ultimately reduces special education referrals. Through the reliable process of RTI, students who are not exhibiting adequate progress may be considered for extra support through special education.

Response to intervention is most effective when research based instruction is delivered by highly trained professionals. To show all interventions have been exhausted without progress, teachers must learn to document attempted interventions. High-quality implementation is also heightened with consistent professional development. If trained professionals have attempted all interventions with high fidelity, a lack of progress can be seen as a deciding factor for special
education referral. In conclusion, the RTI process maximizes success in the identification of reading/learning disabilities in early elementary education students.
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doi:10.1177/0022219412442155


