

RUNNING HEAD: Effect of Response to Intervention

EVALUATION OF THE EFFECT OF RESPONSE TO INTERVENTION (RTI) ON
STUDENT ACHIEVEMENT IN READING

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ABSTRACT

This study was conducted in order to determine the effectiveness of a Response to Intervention (RTI) program in a suburban kindergarten through 5th grade elementary school. The research investigated the use of RTI and its effectiveness specifically upon student achievement in reading. Students in kindergarten in this school were examined based upon their reading performance and the lowest learners in the grade level were placed in RTI, a total of about 30 students. Students were often fluctuated between groups of RTI and may have graduated out of the RTI program if their learned skills became adequate with their grade level expectations. The research looks at kindergarten students that were struggling with reading and not receiving RTI during the 2009-2010 school year, before RTI was implemented in the school, and it also looks at kindergarten students that were struggling with reading and did receive RTI during the 2010-2011 school year. The research intended to tell whether RTI made an impact on student achievement and growth. Through the research and study, RTI has shown to be a highly effective strategy to increase student learning and make an impact on their growth.

INTRODUCTION

Background,

The school district in which this study will take place is a suburban school district located in Missouri with a population of about 51,101 (Census 2010). There are around 10,727 students enrolled from preschool to grade 12. The district enrollment population is predominantly white with 85% Caucasian students. There are 18% of students that qualify for free or reduced lunch. This has been a rapidly growing city and the student enrollment has doubled from 10 years ago due to the amount of housing development that has taken place. With the growth of the school district, there has also been a vast increase in students entering into special education services and several others struggling to keep up with their peers within the classroom. Each year, the achievement gap tends to get a little bit larger as students progress through school. In order to decrease the amount of struggling learners in the classroom and control the amount of students that are placed into special education services, the school district implemented the use of “Response to Intervention” (RTI) beginning in the fall of 2010.

According to the National Association of State Directors of Special Education (NASDE), RTI is a way to provide high-quality instruction and interventions to meet individual students’ needs. The monitoring of their progress is crucial to make informed decisions about how to improve instruction and to make important educational decisions. The purpose behind RTI is to provide early intervention to struggling students to maximize achievement. It has become extremely popular in elementary schools for struggling readers, although it is occasionally used in other subject areas to encourage student growth. The Individuals with Disabilities Act (IDEA) 2004, states that the use of

the discrepancy formula is not required and it permits RTI for qualification into services. States are now encouraged to implement RTI as a component of learning disability identification. The lack of knowledge retention and growth while receiving RTI can help to determine whether a student needs to seek special education services. RTI is not mandated by the government, just encouraged and recommended.

For RTI to be correctly implemented, each classroom teacher is asked to identify students who are at-risk for poor learning outcomes, provide evidence-based interventions using the RTI model, monitor student progress through data, and adjust the intensity and nature of instruction depending on student growth. This study will take a closer look at a specific school within the suburban, Missouri, school district whose student enrollment in 2009 was 634 and student enrollment in 2010 was 526. The kindergarten reading growth will be the emphasis of this study because students are actively learning to read at this level and their growth is necessary in order to foster continued success. The purpose of this study is to discover the effectiveness of RTI on student achievement. Reading assessments of struggling students who experienced RTI and reading assessments of struggling students who did not experience RTI will be evaluated. The analysis of the results will determine whether the RTI that is currently implemented is making a positive impact on student learning.

Practice under Investigation

The practice under investigation is how effectively RTI is being implemented within the classroom for struggling learners measured by student achievement.

School Policy to be Informed by Study

Elementary schools begun implementing RTI district wide beginning in 2010. The implementation required each certified personnel in the school spends 30 minutes each day, at the same time each day, working with a group of students with a common need. The use of RTI was focused on reading skills at the kindergarten level. There were anywhere from 3 to 6 students in a group and this 30 minute period was used for intense intervention. Teachers in each classroom were responsible for deciding which students needed interventions and in which specific skill area. The groups were then discussed and grade levels would collaborate to assign students to the group working on that specific reading struggle. Teachers took data on students as often as possible, at least once a week, and compiled the data to monitor student progress over time to see if the interventions were making an impact on student learning. The data collected indicated whether the interventions are working and would guide instruction within the group and communicated back to the regular classroom teacher to guide classroom instruction as well. There had been little professional development for teachers in the area of RTI and interventions were developed by teachers in each grade level. Common skills that were lacking for the beginning reading level, where this study will be focused, were learning letter sounds, blending sounds together to create words, one-to-one correspondence during reading, sight word recall, reading fluency, and reading comprehension. The teachers were exposing students to a variety of these skills on a daily basis intending to see student growth in reading.

Conceptual Underpinning

In the IDEA 2004 federal act, RTI is offered as an option for schools and is not a requirement. It is mentioned in the IDEA 2004 act as a way to identify specific learning disabilities through the data that is collected and analyzed. RTI's intention, though, is to improve instruction for students and keep them in the least restrictive environment (regular classroom) to provide early intervention. It can be directed toward all students and used to move students in an out of intervention if they have shown adequate growth. The purpose of early intervention is to catch students up with their peers and keep them where they need to be. Teachers want to be able to have as small of a gap as possible within their classroom and help all students become successful. The use of RTI is to give struggling learners in the classroom an opportunity to be successful and not lag behind their classmates. It is desired by teachers and students to have a positive and successful classroom environment. Students are given a chance to display their reading abilities in the classroom to their teacher in several ways, one being through the use of assessments. Teachers want their student to be successful on assessments and show growth from one point in the year to the next. Making sure students are capable to reach their potential and meet this goal can be fostered through providing early interventions. RTI is a positive way for teachers to help all students meet their potential and achieve high standards and goals.

Statement of the Problem

With RTI being a new practice in the district, there is a lack of knowledge and support of its effectiveness on student achievement from teachers, parents, and students.

Purpose of the Study

The purpose of the study is to discover the effectiveness of RTI on student achievement. The information gained will help teachers, parents, and students understand the use of RTI and if it is accomplishing its full intention for student achievement.

Research Question

Is there a difference in achievement between struggling learners who did not receive Response to Intervention (RTI) and struggling learners who did receive RTI?

Null Hypothesis

There is not a difference in achievement between struggling students who received RTI and struggling students who did not receive RTI.

Anticipated Benefits of the Study

The results of this study will benefit the district with greater understanding of how successful the implementation of RTI has been within a specific grade level. It will help teachers understand the effectiveness of their efforts and if their interventions are making a difference on student achievement as opposed to before when students were not given RTI. The study will also indicate whether changes need to be made to the current intervention model in order to better meet student needs to see greater achievement.

Definition of Terms

RTI: Response to Intervention:

NASDE: National Association of State Directors of Special Education

IDEA 2004: Individuals with Disabilities Education Act, revised in 2004

DRA: Developmental Reading Assessment

Summary

This study took place in a suburban school district and more specifically at the kindergarten level of one of the ten elementary schools. The school implemented the RTI model beginning in the 2010-2011 school year in order to provide early intervention to struggling learners. RTI was new to the district and did not have full support of teachers, parents, and students. This research investigated the use of RTI and its effectiveness specifically upon student achievement in reading. The research looks at kindergarten students that were struggling and not receiving RTI during the 2009-2010 school year, before RTI was implemented in the school, and it looks at kindergarten students that were struggling and did receive RTI during the 2010-2011. The research indicates whether RTI made an impact on student achievement and growth.

REVIEW OF LITERATURE

Response to intervention (RTI) has rapidly made its way into the world of education as a tool to address the multiple needs of struggling students. RTI consists of a multi-tier framework in which each tier encompasses the type of instruction to the students in that particular tier need to academically progress. The most common framework is a three tier intervention system. This system is set up to move students between different tiers based on their growth.

The first tier, described from the National Research Center on Learning Disabilities uses “evidence-based instruction provided to all students in the general education classroom [where] student progress is continually monitored” (2005, 5). Within this tier, the regular education classroom instruction is provided for whole group, small groups, and individual students. The regular education teacher provides the instruction in this tier where students’ progress is monitored and learning takes place on a daily basis with a variety of curricular activities and methods.

The second tier consists of small-group instruction with students who are consistently failing to make adequate progress in the general classroom. Programs and strategies are created to enhance tier one instruction (Compton, Fuchs Bryant, 2006; Davis, Lindo, and Compton, 2007; Marston, 2005). Students who are identified in tier one as struggling learners are entered into this tier in order to receive more intensive instruction to meet the curricular goals of their age and grade level. Tier two provides a small group structure for a teacher to work with specific needs with similar needs students each day. Student progress is monitored on a regular basis and the intervention

methods are determined as effective or ineffective to find out what is working to help students succeed.

The third tier emphasizes intensive instruction for students who are not responding to interventions received in tier two. The intensive instruction is specialized and individualized based on their needs (Compton, Fuchs, Bryant, 2006; Davis, Lindo, and Compton, 2007; Marston, 2005). The third tier is where special education services can be utilized to help those students not responding to intervention in the first two tiers. The three tier framework is created to deliver evidence-based instruction and interventions in order to meet the needs of all students. RTI helps by functioning as an eligibility for special education services (Zirkel and Thomas, 2010).

One of the main goals of utilizing RTI in schools is to strengthen the use of data-based decision making to address the multiple needs of struggling students using all educators as powerful tools to make this happen. Sawyer, Holland, and Detgen (2008) have identified four reasons to adopt RTI: to reduce the disproportionate representation of racial/ethnic minority students in special education, to better integrate general and special education, to boost achievement for all students, to assist in identifying students with learning disabilities. The ability to close the gap between struggling students and higher achieving students is what makes RTI an impactful strategy within schools.

Response to intervention has been considered for adoption in various states and has already been supported in several districts. Many interested states consider the use of response to intervention as a strategy to promote the achievement of all students and an identification tool for students in need of special education services (Detgen, Yamashita, Davis, Wraight, 2011). There are already several states that use RTI in all of their school

districts, some for different reasons. For example, according to Detgen, Yamashita, Davis, Wraight (2011), Illinois requires the use of RTI in general education, Iowa RTI to help identify specific learning disabilities. Currently, Illinois, Iowa, Michigan, and Wisconsin have developed their own state models or plans for the implementation of RTI. The plans give the individual districts flexibility in the use of RTI to meet their specific needs and resources. The states of Illinois, Iowa, and Ohio are in the process of trying to measure RTI's impact in comparison to how it is implemented across the state (Detgen, Yamashita, Davis, Wraight, 2011).

Response to Intervention is designed to make it unacceptable to wait for students to fail. With intervention as its key to effectiveness, responding at the first sign of struggle is the reason for implementation. Support for the RTI movement has caused the U.S. Department of Education to create the *National Center on Response to Intervention* with involves several American Institutes for Research and University involvement (University of California , L., 2011). The RTI center is put in place to shape how response to intervention is implemented. Currently, “the RTI center stresses that ‘the purpose of RTI is to provide all students with the best opportunities to succeed in school, identify students with learning or behavioral problems, and ensure that they receive appropriate instruction and related supports.’ [The center also states that] ‘response to intervention integrates assessment and intervention within a multilevel prevention system to maximize student achievement and to reduce behavior problems.’” (University of California , L., 2011 p.1). Schools are put at a place where they identify students that are at-risk learners and place them into the RTI program. While in the RTI program, teachers work with these students by providing evidence-based interventions, monitoring

student progress, and modifying intensity and nature of the interventions based on student need and responsiveness.

Beyond the intervention strategies, as teacher notice little or no progress, considerations for learning disabilities or other disabilities are made. RTI is implemented “as a school-wide, multi-level instructional and behavioral system for preventing school failure, screening, progress monitoring, and data-based decision making for instruction, movement within the multi-level system, and disability identification (in accordance with state law)” (University of California , L., 2011 p.1). Intervention strategies must be properly designed in order to correctly implement the intervention program in order to ensure student progress and effectiveness of RTI. There are effective practices in order to change an at-risk student’s progress. Some necessities to transform classrooms are such as “opening the classroom door allow[ing] for many forms of assistance, mentoring, partnership, and other collegial practices, ensuring what goes on in the classroom (and school-wide) establishes and maintains a stimulating, caring, and supportive climate, and redesigning classroom strategies to enhance teacher capability to prevent and handle problems and reduce the need for out of class referrals” (University of California , L., 2011 p.2). There is an abundance of work that goes into implementing RTI, but it can be very successful if done in its full extent with all teachers on board to create a more successful learning environment through RTI.

Response to Intervention has proven to be effective all across the nation. The Sanger Unified School District in California took on a program improvement after the 2004-2005 school year, in which it was considered one of “the 98 lowest-performing districts in the state based on success criteria in the No Child Left Behind law” (Samuels,

2011 p.53). The district knew that there were changes that needed to be made in order to reach their students and encourage academic success. The district had some challenging demographics with “seventy-six percent...eligible for free and reduced-price lunch and 24% English-language learners” (Samuels, 2011 p.53). After this particular school year, they decided to implement RTI in their district. “Six years later, the district’s turnaround [was] dramatic. In two years, it exited program improvement and racked up honors for academic achievement” (Samuels, 2011 p.53). The district saw a huge improvement and achieved its target performance index in 2010. All of this was made possible by the commitment of the district to RTI. Even though the achievement gap is not closed completely, the district has made huge strides toward creating “a support structure where it’s harder for a child to fail than it is for them to succeed” (Samuels, 2011 p.56).

Most of the well developed research has pointed toward how RTI is successful and when correctly implemented, it can positively change student outcomes. For students that do not respond to intervention, there are methods to give them the more intensive help that they need to be more successful. For students who do respond to intervention on that second tier, RTI can truly be referred to as a success for their future in education. Correct implementation does take willingness on many levels from educators and students as well as time and preparation to develop successful interventions.

RESEARCH METHODS

Research Design

The reading assessment scores of kindergarten students from December and from May for two different school years are used as the research design. The alpha level was set at 0.25 for all tests with this research. The independent variable was the pre-implementation of RTI students (2009-2010) and the post-implementation of RTI students (2010-2011). The dependent variable was student reading assessment scores on the Developmental Reading Assessment (DRA) at the end of the school year (May).

Study Group Description

The study group for this research consisted of 60 students at the kindergarten grade level at a suburban elementary school. The research group was taken from two different school years, 2009-2010 and 2010-2011. The group from 2009-2010 were students from the kindergarten grade level that struggled the most with reading based upon their mid-year Developmental Reading Assessment (DRA) score, but did not receive RTI during the school year. The 2010-2011 group were students from the kindergarten grade level that struggled the most with reading based upon their mid-year DRA score, but did receive RTI during the school year.

Data Collection and Instrumentation

Kindergarten students were given a Developmental Reading Assessment (DRA) twice a year, in December and again in May. This test was used to determine growth in reading based upon fluency and comprehension. The DRA was given as an individual assessment to each student in the classroom. The scores from December 2009 from the entire kindergarten grade level were recorded and the lowest 30 scores were determined

as the study group for this specific school year. The scores from December 2010 from the entire kindergarten grade level were recorded and the lowest 30 scores were determined as the study group for this specific school year, as long as they received RTI in between the two tests, which they all had. The scores on the May DRA were then collected on this same set of 30 students for each group. The scores were recorded on an excel spreadsheet. The groups were re-coded as numbers (group 1 and group 2) so that the statistical analysis could be conducted.

Statistical Analysis Methods

A Statistical Package (ASP) software was used in order to compute the statistical calculations in this study. Descriptive statistics and t-test were calculated. Microsoft Excel was used to compile the data in order to transport it successfully into ASP.

FINDINGS

An analysis of student performance was conducted using ASP software. Using the data found in Table 1, a highly significant t value was found for the difference between post test scores for RTI and non-RTI students.

Table 1

t-Test results comparing post-test scale scores for independent and dependent variables, non-RTI and RTI students respectively.

Source	Mean	S ²	Mean D	t-Test	df	p-value
Post DRA Non-RTI (n=30)	4.07	1.51				
Post DRA RTI (n=30)	6.8	3.41	-2.73	-6.75	5.80	0.00
Note: Reject the Null Hypothesis when o-value is = or < Alpha 0.25						

The results gathered in Table 1 show that the mean post-DRA scale score for non-RTI students is 4.07 and 6.8 for RTI students. A highly significant difference (t-Test = 6.75; p-value = 0.00; Mean D = 2.73) in mean scores was found between non-RTI students and RTI students. The p-value of 0.00 is lower than the Alpha level of 0.25, which causes the null hypothesis which states that there will be no difference to be rejected. Students that experienced RTI during most of the kindergarten 2010-2011 school year (RTI, Mean = 6.8, or an average DRA score of almost “8” reading level) recorded a higher mean score on the May Developmental Reading Assessment (DRA) than students taught without intervention during the kindergarten 2009-2010 school year (Mean = 4.07, or an average score of “3” reading level), when compared to the criterion p-value of 0.25. These findings suggest that RTI is highly affective for low achieving students.

CONCLUSIONS AND RECOMMENDATIONS

The results of this study show that there is a highly significant difference between the scores of RTI and non-RTI students. The Response to Intervention three tiered model implemented by the school district is showing improvements in assessment scores and is allowing students to become more successful. There are several factors that go into student growth such as different class abilities and a variety of instructional methods. Student growth can be shown in this specific instance, but further research would be necessary to see if RTI is truly an impacting source in all grade levels and schools. Based upon this case, RTI implementation shows to be an effective tool of instruction when assessing student growth.

Response to Intervention programs have shown to be widely effective among several schools across the country. The common goal is to intervene with struggling learners to prevent further difficulties as students' progress through school. The review of current literature stands by these conclusions in that studies confirm that RTI is effectively supporting struggling students and aiding teachers in consistently intervening on a daily basis with these learners.

Based on the data collected in this study, RTI should be piloted in schools to review the data for their particular situation. This can help each unique district, school, and grade level discover what is effective for them and, in turn, hopefully increase student learning and achievement. Teachers should make RTI a crucial part of their day to where they get a chance to change student outcomes due to more individual attention and intensive instruction. The struggling students who had participated in RTI, typically performed higher than those struggling students who did not receive the RTI. This

causes room for assumption that RTI makes positive impacts and schools should be attempting to utilize RTI in quest to find what works for their specific students.

There is no need for budget adjustments while utilizing this program, just time adjustments for most teachers. This period of intervention can be worked into the daily schedule during several parts of the day and having this as a routine time for students not partaking in RTI to be independently working can also be effective for their own study and learning skills. This program can make an impact on students if it is fully implemented with all teachers and students on board with the goal of enhancing student achievement. Further research should be attempted by each individual school to determine whether RTI is an effective answer for their struggling students to see growth.

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