1-1-2007

Response to Intervention and Effects on Retention

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Running Head: RTI AND RETENTION

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Thesis submitted to
The Graduate College of
Marshall University

In partial fulfillment of the
Requirements for the degree of
Educational Specialist
School Psychology

by

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Marshall University
May 2007

Abstract

Little research exists pertaining to the affect of the Response to Intervention model on student grade retention. This study was designed to determine a relationship between the frequency of students retained in grades kindergarten through third prior to and following the implementation of the Response to Intervention model. A five member cohort group conducted a longitudinal study of grades kindergarten through third grade in eleven pilot schools in the state of West Virginia. A Chi-Square test was chosen to examine the variables in an attempt to identify whether the implementation of the Response to Intervention model had an affect upon student grade retention. Results indicated that the frequency of students retained was not significantly different when comparing student retention before and after the implementation of The Response to Intervention model for kindergarten, first, and third grades. However, frequencies of students retained were significantly different when comparing student retention before and after the program implementation for second grade. When comparing total frequencies for kindergarten, first, second, and third grades in the pilot schools, frequency of students retained was not significantly different when comparing student retention before and after the implementation of the Response to Intervention model.

Acknowledgements

I would like to express extreme gratitude to all the members of the cohort group that participated in this study. Everyone made the task of completing this study a truly unique experience. I would also like to extend tremendous gratitude to Dr. Krieg for all the assurance and guidance, not only with the thesis, but with the entire program. I would also like to extend my gratitude to Dr. Meisel for all the assistance with regards to the statistics involved in this study. To my third committee member, Dr. Stroebel, I would like to express my gratitude for her assurance and assistance with the thesis as well as with the entire program.

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Review of Literature

The National Association of State Directors of Special Education defined Response to Intervention as, "The practice of providing high-quality instruction and intervention matched to student need, monitoring progress frequently to make decisions about change in instruction or goals and applying child response data to important educational decisions" (Batsche et al., 2005). Amendments to the Individuals with Disabilities Education Act in 2005 added the requirement of intensive, early reading interventions that precede placement in special education classrooms (Batsche et al., 2005). The shorthand term for this new process is Response to Intervention (RTI). The goal of the Response to Intervention program is to reduce special education designations for children whose primary problem is reading instruction (Batsche et al., 2005). The Response to Intervention (RTI) approach was added to the Individuals with Disabilities Education Act (IDEA) to account for noted problems associated with the traditional ability-achievement discrepancy (IDEA, 2004). Specifically, the law states,

> Notwithstanding section 607(b), when determining whether a child has a specific learning disability as defined in section 602, a local education agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning. (20 U.S.C. § 1414(b)(6)(A)).

Continuing, and providing the alternative approach that may be used, the law states,

> In determining whether a child has a specific learning disability, a local educational agency may use a process that determines if the child responds to scientific research–based intervention as a part of the evaluation procedures described in paragraphs (2) and (3). (20 U.S.C. § 1414(b)(6)(B)).

Prasse (2006) defined Response to Intervention (RTI) as a cornerstone of the problem solving delivery system. Delivering scientifically based interventions with integrity and frequently monitoring how the student responds to those interventions provides an invaluable database of important information about the need to change or sustain the intervention in a timely fashion. An RTI approach to determining educational need, as opposed to a categorical labeling approach, keeps the focus of our professional resources where they need to be, on student outcomes. The allocation of special education resources is then a function of student response to intervention, not of arbitrary cutoff scores from standardized tests that have little to do with developing effective interventions. Students who need special education services are those students who respond well to intervention yet require major resources to sustain the progress, or those students who show progress but will not be able to close the gap with their peers, no matter the intensity or frequency of the intervention (Prasse, 2006).

The concept of RTI has always been the focus of the teaching/learning process and a basic component of accountability in general education. In other words, does instruction (i.e., strategies, methods, interventions, or curriculum) lead to increased learning and appropriate progress? In the past few years, RTI has taken on a more specific connotation, especially in the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004), as an approach to remedial intervention that also generates data to inform instruction and identify students who may require special

education and related services. Today, many educators, researchers, and other professionals are exploring the usefulness of an RTI approach as an alternative that can provide data for more effective and earlier identification of students with learning disabilities, and a systematic way to ensure that students experiencing educational difficulties receive more timely and effective support (Long, 2005).

A key element of an RTI approach is the provision of early intervention when students first experience academic difficulties, with the goal of improving the achievement of all students, including those who may have a learning disability. In addition to the preventive and remedial services this approach may provide to at-risk students, it shows promise for contributing data useful for identifying learning disabilities. Thus, a student exhibiting significantly low achievement and insufficient response to intervention may be regarded as being at risk for a learning disability and, in turn, as possibly in need of special education and related services. The assumption behind this paradigm, which has been referred to as a dual discrepancy, is that when provided with quality instruction and remedial services, a student without disabilities will make satisfactory progress (Samuels, 2005).

Core concepts of an RTI approach are the systematic application of scientific, research-based interventions in general education; measurement of a student's response to these interventions; and use of the RTI data to inform instruction. The consensus of the 14 organizations forming the 2004 Learning Disabilities Roundtable was that data from an RTI process should include the following (Samuels, 2005):

1. High quality, research-based instruction and behavioral supports in general education.

2. Scientific, research-based interventions focused specifically on individual student difficulties and delivered with appropriate intensity.
3. Use of a collaborative approach by school staff for development, implementation, and monitoring of the intervention process.
4. Data-based documentation reflecting continuous monitoring of student performance and progress during interventions.
5. Documentation of parent involvement throughout the process.
6. Documentation that the timelines described in the federal regulations §300.532-300.533 are adhered to unless extended by mutual written agreement of the child's parents and a team of qualified professionals as described in §300.540.
7. Systematic assessment and documentation that the interventions used were implemented with fidelity.

The Response to Intervention (RTI) model was proposed as an alternative to the ability-achievement discrepancy. The goal was early identification of reading difficulties that could be addressed through the use of researched-based interventions. Through the use of screening instruments and progress monitoring, teachers and school personnel are able to identify children that are struggling with the core concepts of reading, and utilize researched-based interventions to address the identified deficits. Through the use of this model, it was thought that a reduction in the number of referrals for educational evaluation as well as a reduction in the number of grade retentions would result (Long, 2005).

Several studies have been conducted in order to evaluate the effectiveness of the Response to Intervention (RTI) model. Kellam, Mayer, Rebok, and Hawkins (1998)

implemented a universal, evidence-based reading intervention known as Mastery Learning (ML) in Baltimore City Schools. Key elements of the ML intervention were a group-based approach to mastery and a flexible corrective process. To examine the effects of ML, Kellam and colleagues randomly assigned approximately 1,000 first grade students to ML, a universal behavioral intervention condition, or a control condition. The ML intervention was implemented during the fall of the school year and its effects were examined during the spring of the same year. Results of the study indicated that ML had a significant direct effect on reading achievement over the course of first grade. Indirect effects also were reported on aggressive and depressive symptoms. Thus, the studies conducted by Kellam and colleagues suggest that universal, evidence-based reading instruction can have a positive impact on the socially important outcomes of reading achievement and social/emotional behaviors. The researchers not only found that universal reading instruction significantly improved the reading outcomes for first grade students, but it also reduced early aggressive and depressive symptoms displayed by these students. Kellam et al. (1998) suggest that the observed effects on aggressive and depressive symptoms may be due to reduced frustration experienced because of failure on the socially valued task of reading.

O'Conner, Fulmer, and Harty (2003) examined the effectiveness of systematically providing universal, secondary and tertiary reading interventions in grades kindergarten through third at two schools. A total of 92 students received services through a three-tiered model on an as-needed basis. Tier I services consisted of universal reading instruction and data-based decision making. Tier II consisted of flexible, small group direct instruction that targeted areas of weakness three days per week. Finally, Tier III

services consisted of flexible, individualized instruction that targeted specific areas of weakness five days per week. Students attending the two schools from previous years served as controls. Results indicated that the students receiving tiered service delivery for reading instruction outperformed the control students from previous years. The effect sizes across tiers ranged from small to large on various measures of reading achievement. Also, students in the experimental group had reduced rates of special education identification. Thus, two socially important outcomes for students in the experimental group involved improved reading achievement and student success within the general curriculum. However, the authors noted that the lack of control schools in the study was a limitation that necessitates caution when interpreting their results (O'Conner et. al, 2003).

Grade Retention

The practice of grade retention, or repeating a grade, goes through waves of popularity. Today with increased public and political pressure to improve the quality of the education in the United States, retention has become an increasingly common practice. Despite this increase in retention, there is still considerable research supporting its lack of efficacy. Before examining these, however, let's first look at some common arguments supporting grade retention. One of the most common arguments for grade retention is that an extra year of instruction will result in mastery of skills. It follows that once these students begin to achieve, their self-esteem will be enhanced. Next, there is the argument that immature children will be provided with the opportunity to "grow and mature" for another year. Social promotion of students who are failing results in students with poor academic skills. Retention seems like the correct answer, yet research indicates otherwise (VanAuken, 1999).

The idea of giving a child another year to "catch-up" and develop needed skills sounds like a positive alternative. However, research shows that outcomes for kids who are retained generally are not positive. Krantz (2001) reports that a Chicago Schools study found that of kids retained in eighth grade, one-third ended up dropping out of school. Krantz (2001) projects that, if applied to California's general education students, "250,000 children will be retained, under tough new standards that require that they pass a standardized test before going to the next grade." Applying the one-third rule, Krantz estimates that approximately 75,000 of these kids could drop out rather than complete high school.

Jimerson and Kaufman (2003) reported the following about student grade retention:

1. Academic achievement of kids who are retained is poorer than that of peers who are promoted.
2. Achievement gains associated with retention fade within two to three years after the grade repeated.
3. Kids who are identified as most behind are the ones "most likely harmed by retention."
4. Retention often is associated with increased behavior problems.
5. Grade retention has a negative impact on all areas of a child's achievement (reading, math, and language) and socio-emotional adjustment (peer relationships, self-esteem, problem behaviors, and attendance).

6. Students who are retained are more likely to drop out of school compared to students who were never retained. In fact, grade retention is one of the most powerful predictors of high school dropout.
7. Retained students are more likely to have poorer educational and employment outcomes during late adolescence and early adulthood.
8. Retention is more likely to have benign or positive impact when students are not simply held back, but receive specific remediation to address skill and/or behavioral problems and promote achievement and social skills.

Systematic reviews and meta-analyses examining research over the past century conclude that the cumulative evidence does not support the use of grade retention as an intervention strategy for academic achievement or socio-emotional adjustment (Jimerson, 2001). Recent comparisons of academic achievement and socio-emotional adjustment between retained and matched comparison students, reported in 19 studies published during the1990s, yielded negative effects of grade retention across all areas of achievement and socio-emotional adjustment (Jimerson, 2001). Research also fails to find significant differences between groups of students retained early (kindergarten through 3rd grade) or later (4th through 8th grades). What is most important is that, across studies, retention at any grade level is associated with later high school dropout, as well as other harmful long-term effects. Typically, the test scores of students who are retained in the primary grades may increase for a couple of years and then decline below those of their equally low-achieving but socially promoted peers. The temporary benefits of

retention are deceptive, as teachers do not usually follow student progress beyond a few years.

Studies examining student adjustment and achievement through high school and beyond report assorted negative outcomes associated with grade retention. When comparing retained students with similarly under-achieving but promoted peers, research indicates that retained students have lower levels of academic adjustment in 11th grade and are more likely to drop out of high school by age nineteen (Jimerson, 1999). In fact, retention was found to be one of the most powerful predictors of high school dropout, with retained students two to eleven times more likely to drop out of high school than promoted students (Jimerson, Anderson, & Whipple, 2002). Furthermore, the retained students are less likely to receive a high school diploma by age twenty, receive poorer educational competence ratings, and are also less likely to be enrolled in post-secondary education of any kind. These youth also receive lower educational and employment status ratings and are paid less per hour at age twenty (Jimerson, 1999).

As teachers and administrators are pressured to implement policies designed to "end social promotion," students are threatened with retention if they do not meet academic standards or perform above specified percentiles on standardized tests. It is unclear if this threat is effective in motivating students to work harder. However, this pressure may be increasing children's stress levels regarding their academic achievement. Surveys of children's ratings of twenty stressful life events in the 1980s showed that, by the time they were in 6th grade, children feared retention most after the loss of a parent and going blind (Anderson, Jimerson, & Whipple, 2002). When this study was replicated

in 2001, 6th grade students rated grade retention as the single most stressful life event, higher than the loss of a parent or going blind. This finding is likely influenced by the pressures imposed by standards-based testing programs that often rely on test scores to determine promotion and graduation. Analysis of multiple studies of retention indicate that retained students experience lower self esteem and lower rates of school attendance relative to promoted peers (Jimerson, 2001). Both of these factors are further predictors of dropping out of school. Indirectly, low self-esteem and poor school attendance influence adult outcomes. Students who ultimately drop out of school without a diploma face considerable difficulty finding and maintaining employment for self-sufficiency and experience higher rates of mental health problems, chemical abuse and criminal activities than do high school graduates (Jimerson, 2001).

According to Anderson, Jimerson, and Whipple (2002) there are several explanations for the negative effects associated with grade retention, including:

1. Absence of specific remedial strategies to enhance social or cognitive competence
2. Failure to address the risk factors associated with retention (short-term gains following retention mask long-term problems associated with ineffective instruction)
3. Retained children are subsequently overage of grade, which is associated with deleterious outcomes, particularly as retained children approach middle school and puberty (stigmatization by peers and other negative experiences of grade

retention may exacerbate behavioral and socio-emotional adjustment problems).

When examining the literature pertaining to the Response to Intervention model as well as information on grade retention, it is clear that the Response to Intervention model was a process constructed for the early identification of students with reading difficulties. The model was constructed in order to identify at-risk students and provide them with research-based interventions in order to improve their academic achievement. The Response to Intervention model was also proposed with hopes of reducing the amount of referrals for educational assessment as well as reduce the frequency of grade retention. The Response to Intervention (RTI) model was implemented by the West Virginia Department of Education in eleven pilot schools in order to examine the effects upon reading instruction and student achievement.

After extensive review of the literature, no significant research studies were found to exist pertaining to the effect of the Response to Intervention model on retention rates. This study will serve to fill the gap pertaining to the lack of research addressing the Response to Intervention model and its effects upon the retention rates of students. This study will also provide valuable information pertaining to additional reasons for the possible retention of students.

Hypothesis

This study hypothesizes that the implementation of the Response to Intervention (RTI) model will result in a decrease of the number of students retained in the pilot schools.

Methods

Participants

The RTI pilot project was implemented for grades K through 3 in 11 schools across the state. To be one of the pilot schools chosen the schools needed to have:

1. Reading First or a 3-tier reading model;
2. A committed school level administrator to provide site based leadership;
3. A strong School Assistance Team (SAT) with procedures already in place and an "intervention vs. accommodations" approach for at risk students;
4. Personnel available to collect baseline data, implement tier two intervention, conduct progress monitoring, and document student response to interventions (e.g., special educator, Title I teacher, school psychologist, diagnostician, or reading mentor teacher);
5. Tier two instructional materials and trained staff;
6. Made a qualified/certified special educator available to implement tier three interventions and document student progress;
7. Made tier three instructional materials available and ensured that staff is adequately trained;

8. Made technology available for collection and management of intervention data; and
9. Participated in the Phonemic Awareness Project

The information on retention was obtained from the West Virginia Department of Education. The information obtained is the frequency of students retained in grades kindergarten through third grade for the 2004-2005 and 2005-2006 school years. It should be noted that only ten of eleven pilot schools submitted data pertaining to the number of students retained, therefore the data reflects ten of the eleven pilot schools chosen to participate in the study.

Instruments

Information pertaining to retention rates was collected by the West Virginia Department of Education. The number of students retained in grades kindergarten through third grade was obtained from the ten of the eleven pilot schools for both the 2004-2005 and 2005-2006 academic years. Each of the ten pilot schools was given a single numeral for the purposes of identification and the data obtained was presented in such a manner.

Procedure

Evaluation research is done to determine the relative merits of various products and approaches used in education (Mertler & Charles, 2005). Evaluation research may be utilized to assess the effectiveness of programs implemented within a school system. This study was conducted in order to evaluate any relationship between the implementation of the Response to Intervention model and the number of students retained in the grades in which reading interventions were provided. The Response to Intervention model was

selected in order to provide students with researched based reading interventions in order to improve early literacy skills. The premise of the model was to improve students' early literacy skills so that they may achieve success in the regular classroom. This approach, in turn, is hoped to result in better student achievement and thus a decrease in the number of students retained.

A Chi-Square test was utilized in order to determine if the observed distribution of frequencies occurred by chance. The Response to Intervention model reflects the theoretical views attached to the nature and process of early literacy skills. The program is designed to target early literacy skills in hopes of improving these skills and reducing the number of students retained. Ten of the eleven pilot schools submitted data pertaining to the number of students retained in grades kindergarten through third for the 2004-2005 as well as the 2005-2006 academic years, at which time the Response to Intervention model was implemented in the pilot schools. The data was coded by using a numerical code assigned to each of the eleven pilot schools. The numerical value assigned to each school is representative of the school's assigned number.

The data was quantitatively analyzed to determine the relationship between the implementation of the Response to Intervention model in the pilot schools and the retention rates in the identified grades of the selected pilot schools. Quantitative analysis was conducted using Statistical Package for the Social Sciences (SPSS). *Note individual statistics were used for each respective research question.*

Data Analyses

This study examined the effects of the implementation of the Response to Intervention model on student grade retention. The data was analyzed using a Chi-Square test between the number of students retained prior to and following the implementation of the Response to Intervention model in the pilot schools. This analysis was selected to obtain data in the form of frequencies. Also, the size of the data set was not large enough to represent the population. As a result, the use of nonparametric statistics was needed in order to best analyze the obtained data. The data used in the study were analyzed in three ways: to examine a change in any of the variables, to indicate interrelationships between the implementation of the model and student grade retention, and to make predictions based on the changes and scores of the variables.

Through the examination of the observed and expected frequencies of students retained in each grade prior to and following the implementation of the Response to Intervention, further analysis may be conducted in order to determine if the observed frequency of students retained occurred by chance or if it was the result of some other variable such as the implementation of the Response to Intervention model.

Table 1.1

Frequency of Students Retained in Kindergarten

	Observed N	Expected N	Difference
Pre Program	27	24.5	2.5
Post Program	22	24.5	-2.5
Total	49		

In Table 1.1 the data reflect a higher frequency of students retained in Kindergarten prior to the implementation of the Response to Intervention model (27), than would be expected to occur by chance (24.5). The data further reflects a lower frequency of students retained in kindergarten following the implementation of the Response to Intervention model (22), than would be expected to occur by chance (24.5).

Table 1.2

Chi-Square Value and Significance Level for Kindergarten

	Frequency of Students Retained
Chi-Square(a)	.510
df	1
Asymp. Sig.	.475

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 24.5.

In Table 1.2 the critical value at one degree of freedom needed for rejection of the null hypothesis at the 0.05 level of probability is 3.84. The obtained value of .510 is significantly less than the critical value of 3.84. Thus, the data reflect that there is no significant difference in the frequencies of retained students before and after the implementation of the Response to Intervention program for kindergarten. Because the results were not significant, this researcher fails to reject the null hypothesis.

Table 1.3

Frequency of Students Retained in Grade 1

	Observed N	Expected N	Difference
Pre Program	18	21.5	-3.5
Post Program	25	21.5	3.5
Total	43		

In Table 1.3 the data reflect a lower frequency of students retained in first grade prior to the implementation of the Response to Intervention model (18), than would be expected to occur by chance (21.5). The data further reflects a higher frequency of students retained in first grade following the implementation of the Response to Intervention model (25), than would be expected to occur by chance (21.5).

Table 1.4

Chi-Square Value and Significance Level for Grade 1

	Frequency of Students Retained
Chi-Square(a)	1.140
df	1
Asymp. Sig.	.286

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 21.5.

In Table 1.4 the critical value at one degree of freedom needed for rejection of the null hypothesis at the 0.05 level of probability is 3.84. The obtained value of 1.140 is less than the critical value of 3.84. Thus, the data reflect that there is no significant difference in the frequencies of retained students before and after the implementation of the Response to Intervention program for grade one. Because the results were not significant, this researcher fails to reject the null hypothesis.

Table 1.5

Frequency of Students Retained in Grade 2

	Observed N	Expected N	Difference
Pre Program	18	12.5	5.5
Post Program	7	12.5	-5.5
Total	25		

In Table 1.5 the data reflect a higher frequency of students retained in second grade prior to the implementation of the Response to Intervention model (18), than would be expected to occur by chance (12.5). The data further reflects a lower frequency of students retained in second grade following the implementation of the Response to Intervention model (7), than would be expected to occur by chance (12.5).

Table 1.6

Chi-Square Value and Significance Level for Grade 2

	Frequency of Students Retained
Chi-Square(a)	4.840
df	1
Asymp. Sig.	.028

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 12.5.

In Table 1.6 the critical value at one degree of freedom needed for rejection of the null hypothesis at the 0.05 level of probability is 3.84. The obtained value of 4.840 is greater than the critical value of 3.84. Thus, the data reflect that there is a significant difference in the frequencies of students retained prior to and following the implementation of the Response to Intervention program for grade two. Because the results were significant, this researcher rejects the null hypothesis.

Table 1.7

Frequency of Students Retained in Grade 3

	Observed N	Expected N	Difference
Pre Program	7	5.0	2.0
Post Program	3	5.0	-2.0
Total	10		

In Table 1.7 the data reflect a higher frequency of students retained in third grade prior to the implementation of the Response to Intervention model (7), than would be expected to occur by chance (5.0). The data further reflects a lower frequency of students retained in third grade following the implementation of the Response to Intervention model (3), than would be expected to occur by chance (5.0).

Table 1.8

Chi-Square Value and Significance Level for Grade 3

	Frequency of Students Retained
Chi-Square(a)	1.600
df	1
Asymp. Sig.	.206

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.0.

In Table 1.8 the critical value at one degree of freedom needed for rejection of the null hypothesis at the 0.05 level of probability is 3.84. The obtained value of 1.600 is less than the critical value of 3.84. Thus, the data reflect that there is no significant difference in the frequencies of retained students before and after the implementation of the Response to Intervention program for grade three. Because the results were not significant, this researcher fails to reject the null hypothesis.

Table 1.9

Total Frequency of Students Retained

	Observed N	Expected N	Difference
Pre Program	70	63.5	6.5
Post Program	57	63.5	-6.5
Total	127		

In Table 1.9 the data reflect a higher frequency of students retained in all schools prior to the implementation of the Response to Intervention model (70), than would be expected to occur by chance (63.5). The data further reflects a lower frequency of students retained in all schools following the implementation of the Response to Intervention model (57), than would be expected to occur by chance (63.5).

Table 1.10

Chi-Square Value and Significance Level for All Grades

	Frequency of Students Retained
Chi-Square(a)	1.331
df	1
Asymp. Sig.	.249

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 63.5.

In Table 1.10 the critical value at one degree of freedom needed for rejection of the null hypothesis at the 0.05 level of probability is 3.84. The obtained value of 1.331 is less than the critical value of 3.84. Thus, the data reflect that there is no significant difference in the frequencies of retained students before and after the implementation of the Response to Intervention program for all students in grades kindergarten through third for the pilot schools. Because the results were not significant, this researcher fails to reject the null hypothesis.

Table 1.11

Percentage of Students Retained After RTI

RTI Pilot Schools	Total number of students enrolled	Total number of students retained (Grades K-3)	Percentage of students retained
Statewide	553,190	20,797	3.8%
1	552	0	0.0%
2	412	18	4.4%
3	547	4	0.7%
4	529	5	0.9%
5	514	9	1.8%
6	606	-	-
7	465	8	1.7%
8	387	3	0.8%
9	314	0	0.0%
10	696	8	1.1%
11	255	2	0.8%

In Table 1.11 the data reflect a lower percentage of students retained in ten of the eleven pilot schools than were retained throughout the entire state (3.8%). The data further reflect a higher percentage of students retained (4.4%) in one of the eleven pilot schools than were retained throughout the entire state (3.8%). It should be noted that the data obtained for the entire state reflects the total number of students retained in the state and does not reflect only the percentage of students retained in kindergarten through third grade.

Discussion

Results indicated that the frequency of students retained was not significantly different when comparing student retention before and after the implementation of The Response to Intervention model for kindergarten, first, and third grades. However, frequencies of students retained were significantly different when comparing student retention before and after the program implementation for second grade. When comparing total frequencies for kindergarten, first, second, and third grades in the pilot schools, frequency of students retained was not significantly different when comparing student retention before and after the implementation of the Response to Intervention model.

When examining the frequency of students retained for kindergarten, first and third grades, it is important to consider the percentage of students retained in these grades compared to the percentage of students retained throughout the state. When examining the data from Table 1.11, the percentage of students retained in the state was 3.8%. For each pilot school, the percentage of students retained following the implementation of the Response to Intervention model reflects a lower percentage of students retained, except for one school in which 4.4% of the students retained for the school were in grades kindergarten through third. Thus, the data reflect that ten of the eleven pilot schools selected to implement the Response to Intervention model reported a percentage of students retained in grades kindergarten through third that was lower than the percentage of students retained for the entire state. The data further reflects that one of the eleven pilot schools reported a percentage of students retained in grades kindergarten through third that was higher than the total percentage of students retained throughout the state.

When considering the significance found for second grade, to state that the implementation of the Response to Intervention is the only causation of the decrease in the frequency of students retained, would be faulty due to the fact that several other factors may have contributed to the frequency of students retained. One factor that could have contributed to the lower frequency of students retained in the second grade is the fact that the pilot schools were instructed to wait to refer students to the Student Assistance Team, in order to allow time for the interventions to be conducted. A lower number of students referred to the Student Assistance Team may have contributed to the lower frequency of students retained due to the fact that the issue was not addressed outside of the Student Assistance Team. Another factor that may have contributed to the lower frequency of students retained in the second grade include the availability of resources such as teachers available to implement interventions. So, although the data showed that the difference in frequencies of students retained in second grade was significant, further data would need to be gathered in order to undoubtedly state that the difference was due to the implementation of the Response to Intervention model.

Another important factor to consider when examining the results of the study pertains to information regarding the causation of retention for students. Research indicates that one of the factors supporting grade retention is that providing students with an extra year of instruction will allow these students to obtain skills that were not mastered. This study examined the effectiveness of the Response to Intervention model in addressing this concern. The premise behind the Response to Intervention model was to increase student achievement, particularly as it pertains to reading achievement.

VanAuken (1999) further reports that another factor supporting grade retention is that that immature children will be provided with the opportunity to "grow and mature" for another year. This study did not examine retention that occurs based on this reasoning. The data obtained for this study does provide useful information pertaining to this question due to the fact that it can be stated that another explanation for the data addresses the fact that a high frequency of students are retained due to immaturity. The data suggest that a number of students are retained regardless of academic achievement and instead based on the factor of social "immaturity." Thus, the data reflect that a number of students retained may be due to the fact that school personnel believe that the student lacks necessary "social skills" needed to be successful in subsequent grades.

This study also shows that the frequency of students retained in grades kindergarten, first, third, and the total number of students retained in all pilot schools could be caused by other variables not considered in this study. The results of the Chi-Square test for grades kindergarten, first, and third indicate that the frequency of students retained prior to and following the implementation of the Response to Intervention model was not significant and probably not the direct result of the implementation of the Response to Intervention model. Furthermore, data pertaining to all of the RTI pilot schools also indicates that the frequency of students retained was not significant and probably not the direct result of the implementation of the Response to Intervention model.

As a result, it can be stated that the hypothesis that the implementation of the Response to Intervention model will have an affect upon the number of students retained was not supported for all data sets excluding second grade. For the second grade, the

acceptance of the hypothesis was supported due to the fact that some variable contributed to the lower frequency of students retained following the implementation of the Response to Intervention model. Therefore, the lower frequency of students retained did not occur by chance.

A limitation to the study was research design, specifically the sample size and duration of the study. The data collected pertaining to the frequency of students retained following the implementation of the Response to Intervention model was based upon the first year of implementation of the program. This is significant in that there was not adequate time for the school personnel to adequately learn the system and become aware of all modalities involved with the implementation of the RTI model. Collecting data for an extended period of time would allow for the data to more accurately depict the number of students promoted as a result of success of the Response to Intervention model. Furthermore, a more accurate depiction of the effectiveness of the RTI model may occur if the sample size was increased. The sample for this study was ten of the eleven pilot schools identified by the West Virginia Department of Education. In subsequent years, it was stated that all school systems in West Virginia were to begin using the Response to Intervention model. The collection of data from a larger population would assist in determining whether the implementation of the Response to Intervention model had a significant effect upon the mean number of students retained.

Results of the study may be less than accurate due to the fact that not all identified pilot schools submitted information pertaining to the frequency of students retained. This information would be useful in that it would increase the sample size of the study and provide further data pertaining to the measured hypothesis.

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Appendix A

Information on Students Retained in RTI Pilot Schools

2004-2005 School Year

RTI Pilot Schools	Kindergarten	Grade 1	Grade 2	Grade 3	Totals	NOTES
1	1	1	1	1	4	
2	11	4	2		17	
3	3	1	2	1	7	
4	4	2	1	0	7	
5	3	4	1	0	8	
6						No data submitted to WVDE
7	1	2	1	3	7	
8	0	1	3	0	4	
9	1	2	3	1	7	
10	2	1	2	0	5	
11	1	0	2	1	4	
Total # Students Retained by Grade	27	18	18	7	70	

2005-2006 School Year

RTI Pilot Schools	Kindergarten	Grade 1	Grade 2	Grade 3	Totals	NOTES
1	0	0	0	0	0	
2	9	8	1		18	
3	1	3	0	0	4	
4	2	1	1	1	5	
5	3	5	0	1	9	
6						No data submitted to WVDE
7	2	4	1	1	8	
8	1	0	2	0	3	
9	0	0	0	0	0	
10	4	3	1	0	8	
11	0	1	1	0	2	
Total # Students Retained by Grade	**22**	**25**	**7**	**3**	**57**	