

RESPONSE TO INTERVENTION-A STUDY OF ITS EFFECTIVENESS

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Abstract

This was a study of how effective Response to Intervention (RTI) is. With No Child Left Behind (NCLB) requiring students to be proficient by 2014 many schools began to find ways to help students make Adequate Yearly Progress (AYP). The State of Missouri selected four school districts to pilot RTI. In this study their AYP before RTI and their AYP for 2 years while using RTI was looked at and collected. The AYP results that were looked at were the Missouri Assessment Program (MAP) Math and Communication Arts for 2009, 2010, and 2011. The results of the finding showed that there was a significant improvement in AYP Math scores for all of the schools and there was not a significant improvement in AYP Communication Arts scores. Even though there was not significant improvement on both tests there was an increase in student achievement which proves RTI does help increase student achievement. The research and literature has proven that RTI is a great intervention program to help all of students learn.

Introduction

Background, Issues and Concerns

There have been concerns about student performance on standardized state tests in the state of Missouri. A certain percentage of students must score in the proficient or advanced levels in order to make Adequate Yearly Progress (AYP). As educators it is important to make certain that students are mastering the GLEs or Common Core Standards put out by the state of Missouri, and for that reason, students need to perform at a high level on these tests. Some may wonder if there is anything that can help students achieve AYP. With the help of RTI the possibilities of students' achievement increasing increases.

Practice under Investigation

The practice under investigation is if RTI is effective and improved student achievement on the MAP.

School Policy to be Informed by Study

Statewide all the school districts in Missouri must meet the AYP standards on the Missouri Assessment Program (MAP), so if there is a significant difference in test scores based on implementing RTI, should make sure teachers are implementing RTI so they are able to reach all students.

Conceptual Underpinning

“RTI is a knowledge base, skills, and a service delivery system that is intended to provide an educational experience to all students that is focused on delivering effective education and intervention programs and on frequent progress monitoring of student outcomes using those

measured student outcomes (RTI) to adjust and change programs and interventions and necessary. RTI is a cornerstone of a problem-solving service delivery system. Delivering scientifically based interventions with integrity and monitoring (frequently) how the student responds to those interventions provides an invaluable data base 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 relying on categorical labels (remember, *learning disabilities* is not a need) keeps the focus of our professional resources where they need to be, on student outcomes.” (Prasse, 2012)

Statement of the Problem

If there is a need for improvement in student academic achievement on the MAP; school districts need to determine how they can increase student achievement to meet AYP.

Purpose of the Study

This study to further look into the research and studies behind Response to Intervention. Response to Intervention has become very popular over the past few years and many schools have chosen to do this program at their schools. Determine if RTI makes a difference in student achievement, it would be good to compare data. Assessment data will be gathered prior to RTI in the school district that implement it and compare that to some assessment data after RTI. The assessments will be the same. The data came from four school districts that began to implement RTI in 2010. The data was the 2009 MAP scores (no RTI) and do a t-test to compare with 2010 and 2011 (RtI) MAP scores.

Research Question

Is there a difference in student achievement prior to implementation of Response to Intervention and after implementation of Response to Intervention?

Null Hypothesis

There is no difference in student achievement prior to implementation of Response to Intervention and after implementation of Response to Intervention.

Anticipated Benefits of the Study

The benefits from the study are to persuade the school districts that RTI would be the program for us to use to help their students. This is a program that it has a success rate that shows student growth. The benefit from this study is to gain more knowledge and implement a version of RTI in the classroom.

Definition of Terms

GLES-Grade level expectations which are specify skills that students should master at each grade level within each content area

Common Core Standards- sets of standards define the knowledge and skills students should have to succeed in entry-level, credit-bearing, academic college courses and in workforce training programs.

RTI-Response to intervention- a method of academic intervention used in the United States to provide early, systematic assistance to children who are having difficulty learning.

AYP-Adequate Yearly Progress- the No Child Left behind Act, instituted in 2000, sets certain goals for school districts to achieve to show student performance. One factor is test scores on the EOC tests in high school and the MAP test in elementary school.

DESE- Department of Elementary and Secondary Education in the state of Missouri

NCLB-No Child Left Behind which is the nation's general education law. It affects what students are taught, the tests they take, the training of their teachers and the way money is spent on education.

IDEIA-Individuals with Disabilities Education Improvement Act which is a law ensuring services to children with disabilities throughout the nation.

Summary

A study was conducted to see if there was a significant difference in 2009 MAP AYP (prior to RTI) and 2010-2011 MAP AYP (with RTI). If the t-test concludes there was a significant difference, teachers should start implementing RTI in the classroom so every student can perform at a high level of achievement. After this study is completed, school districts can benefit by looking at the performance data and providing professional development to teachers on Response to Intervention.

Review of Literature

“In a nationwide survey of U.S. school administrators in 2009, 73 percent of the respondents indicated that their school district had already implemented RTI in some form; vast majority of that number indicated that RTI had initially been implemented in reading.” (Waller, 2011, p. 5) Based off of this statistic many schools have been on board with RTI way before DESE had piloted the study with its 5 schools. RTI as a set of systematic, yet intensive interventions. These interventions are “designed to target an individual student’s specific learning challenges and to provide a supplementary intervention within the context of the general education class.” (Waller, 2011, p.6-7)

RTI models are often described as a 3 tiered model (pyramid model). The 3 tiers are set up as the following: Tier 1 is 80% general education activities which is instruction provided to the entire class; Tier 2 is 15% small group intervention that involves supplemental, targeted intervention for small group; Tier 3 is 5% individual intervention which is intensive, highly specific often one-on-one instruction, designed to meet the needs of that student. (Waller, 2011) Research has proven that RTI provides an effective way to address challenges of all types of learners. It continues on giving strategies and case studies of how effective RTI is. To end reviews this book with this quote from this book: “RTI can be viewed and should be presented as teacher empowerment.” (Waller, 2011 p.10)

RTI takes all the pressure off of the special service teachers and moves it all teachers in which everyone works to together to make sure students are learning. RTI is a movement that has been around but has been pushed more after NCLB and IDEAIA. (Austin Buffum, 2009) According to Buffman (2009) the most effective way to use RTI is through a pyramid (tiered) method. The pyramid RTI is a method in which to approach students and how to help them learn.

The author states RTI is the practice of 1) providing high-quality instruction and interventions that match students' needs and 2) using students' learning rate over time and level performance to make important education decisions. The book continues on providing details and examples of using RTI in the schools, creating Individual learning plans, setting up PRTI and most of all using PLC to help every student learn.

“The RTI method of identification for students at risk for school failure provides early intervention methods without the cumbersome paperwork involved in special education. In order for a student to receive special education services, the student must be formally referred, have parental consent for testing, be tested and be one half his or her chronological ages in at least one developmental domain. If the student qualifies, an Individual Education Plan is designed to address his or her needs. This process can take months and the student will forego services until proven to be eligible for special education services.” (Eichhorn, 2009, p. 9)

Research Methods

Research Design

A quantitative study was conducted to see if the implementation of RTI resulted in an increase in student achievement in MAP scores. Independent variable was the status of students that were taught with RTI or not taught with RTI. Dependent variable was MAP scores.

Study group description

Based DESE there are 4 Missouri School Districts that will participate in the Response to Intervention (RTI) development site work. (Three-Tiered Models of Intervention, 2012) The four school districts attendance rate averaged 94% in 2012. The 2012 free and reduced lunch and enrollment was quite different. One school had a high enrollment of 5,957 and a free and reduced lunch at 38.1%. Another school had an enrollment of 156 and a free and reduced lunch at 91.6%. The other schools had an enrollment of 1,299 and 2,169 with a free and reduced lunch at 61.9% and 54%.

Data collection and instrumentation

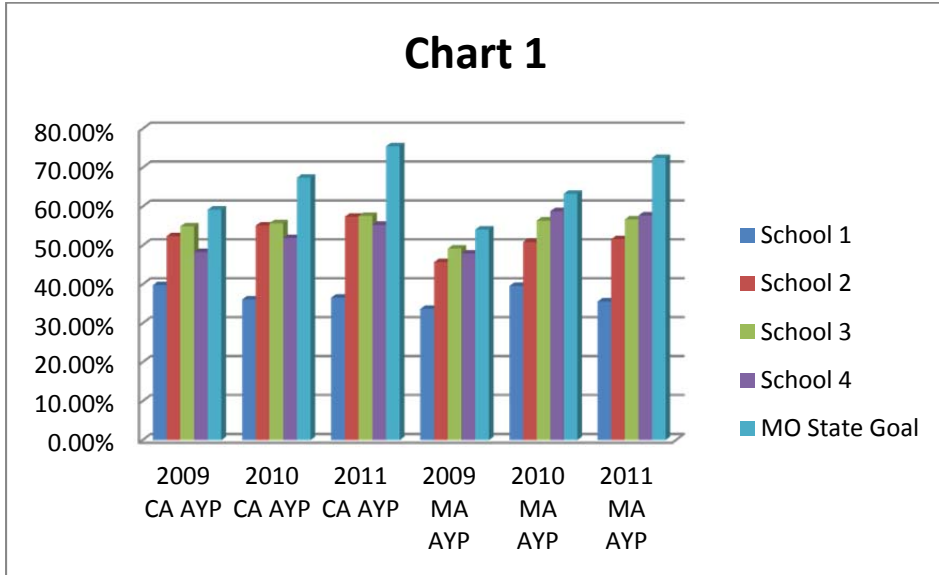
Archived data from DESE was collected to identify 2010-2012 MAP Scores for the 4 selected schools. (Missouri Comprehensive Data System, 2012) Data will be put into a excel table with graphs and a t-test.

Statistical analysis methods

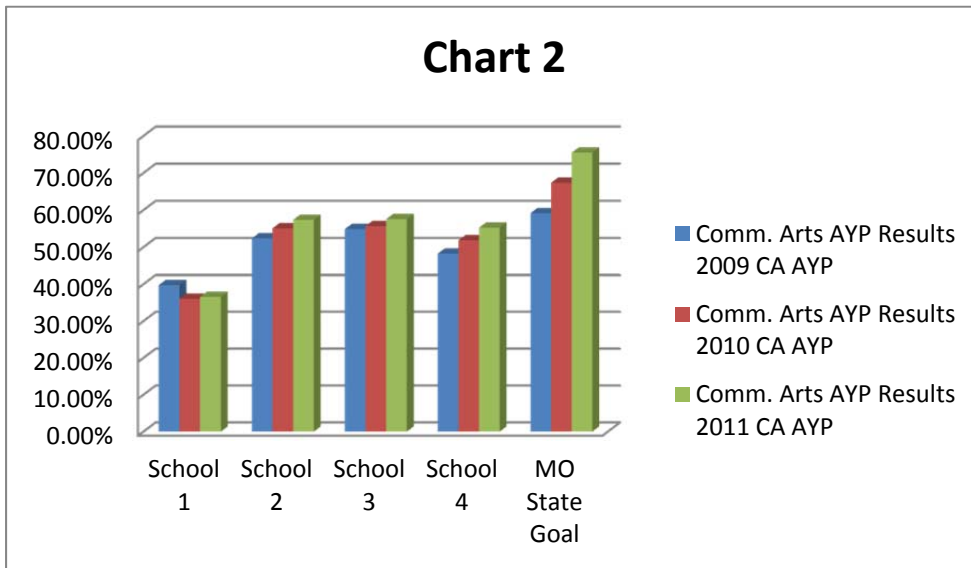
A t-test was conducted to find if there is a significant difference in student achievement scores based on gender. The source was broken into two categories: 2009 MAP results and

2010-2011 MAP results. The mean, mean D, t-test, df, and p-value were concluded from this test. The Alpha level was set at 0.25 to test the null hypothesis: There is no difference in student achievement prior to implementation of Response to Intervention and after implementation of Response to Intervention.

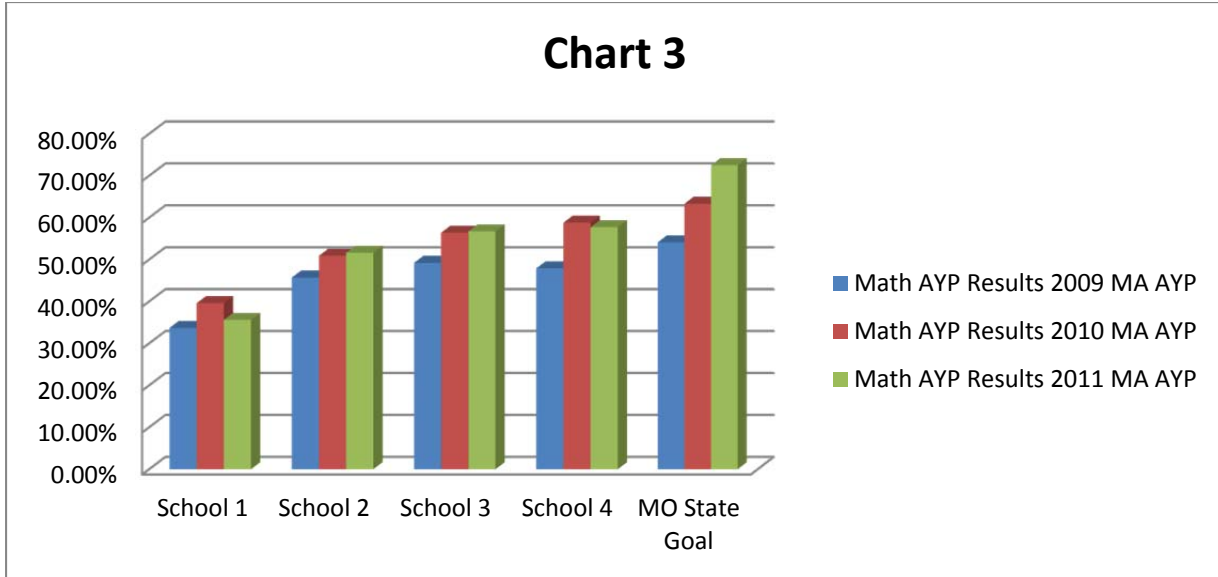
Findings



This is AYP Math Results of 2009-2011. 2009 is prior to RTI while 2010-2011 are the years RTI is in place in each school.



This is AYP Comm. Art Results of 2009-2011. 2009 is prior to RTI while 2010-2011 are the years RTI is in place in each school.



This is AYP for both Math and Comm. Arts Results of 2009-2011. 2009 is prior to RTI while 2010-2011 are the years RTI is in place in each school.

t-Test Analysis Results for No RTI CA AYP and RTI CA AYP

Source	Mean	Mean D	t-test	df	p-value
No RTI (n=5)	50.92				
RTI (n=10)	54.86	3.94	-0.667	13	0.516

Note: Significant when $p \leq 0.25$

Four school districts in the state of Missouri were selected to implement RTI to observe differences between No RTI Communication Arts (CA) Adequate Yearly Progress (AYP) results and RTI Communication Arts (CA) Adequate Yearly Progress (AYP) results. The CA AYP percentages of each district were evaluated to produce two groups: No RTI (bottom 5) was placed in one group and RTI (top 10) were placed in another. The mean of the RTI schools was 54.86 and the mean of the No RTI schools was 50.92. The Mean D, or difference between the

two groups, was 3.94. The t-test result was -0.667 and the df was 13. The null hypothesis states there is no difference in student achievement prior to implementation of Response to Intervention and after implementation of Response to Intervention. Since the p-value was 0.516, and the Alpha number was set at 0.25, the null hypothesis must be accepted. Therefore, there is no significant difference in No RTI CA AYP results and RTI CA AYP results. The No RTI with the mean score of 50.92 scored lower than the upper group with the mean score of 54.86. The lower No RTI CA AYP results, the higher the results on the RTI CA AYP results.

t-Test Analysis Results for No RTI Math AYP and RTI Math AYP

Source	Mean	Mean D	t-test	df	p-value
No RTI (n=5)	46.12				
RTI (n=10)	54.31	8.19	-1.513	13	0.077

Note: Significant when $p \leq 0.25$

Four school districts in the state of Missouri were selected to implement RTI to observe differences between No RTI Math Adequate Yearly Progress (AYP) results and RTI Math Adequate Yearly Progress (AYP) results. The Math AYP percentages of each district were evaluated to produce two groups: NO RTI (bottom 5) was placed in one group and RTI (top 10) were placed in another. The mean of the RTI schools was 54.31 and the mean of the No RTI schools was 46.12. The Mean D, or difference between the two groups, was 8.19. The t-test result was -1.513 and the df was 13. The null hypothesis states there is no difference in student achievement prior to implementation of Response to Intervention and after implementation of Response to Intervention. Since the p-value was 0.077, and the Alpha number was set at 0.25,

the null hypothesis must be rejected. Therefore, there is a significant difference in NO RTI Math AYP results and RTI Math AYP results. The No RTI with the mean score of 46.12 scored significantly lower than the upper group with the mean score of 54.31. The lower No RTI Math AYP results, the higher the results on the RTI Math AYP results.

Conclusions and Recommendations

In conclusion, RTI is a great intervention program that is proven to be successful. There are many factors in setting up RTI in your school but if you go through the process and steps you can have a success rate of every child is learning. The recommendation of that every teacher read about RTI and takes on this process with an open mind and a mind set of that every child learns. If you take on RTI and the tiers students will learn and differentiated instruction will be taking place.

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