RUNNING HEAD: Response to Intervention

Student achievement between students taught with RTI and students not taught with RTI?

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Submitted in Fulfillment for the Requirements for 61-683 Research Paper

Fall 2014

December 22, 2014
ABSTRACT

This study was completed to see the difference in achievement from students who are involved with response to interventions, and students who are not involved with RTI. RTI is a process used by school district to help students reach objectives and standards. The process is used in special education, and the struggling students in the school who need the support. The study was conducted by giving all RTI students a pre-test at the beginning of RTI, and then a post-test at the end of the RTI process. Findings of this study show that when RTI is implemented with fidelity students will show a significant amount of growth and progress. The study shows how one particular elementary school can show progress of RTI students. The school has the three tiers to RTI, communicate, and give professional development to staff. The literature will show how these aspects correlate to an effective RTI school. Students who are involved in RTI will show improvement if RTI is implemented with fidelity, and with adequate professional development.
INTRODUCTION

Background, issues and concerns.

There have been concerns if the process of Response to Intervention (RTI) is effective for students in general education, as well as special education. RTI is a program in place to help struggling students achieve in education. RTI is implemented in schools to bridge the achievement gap of students. It is a tool used by thousands of schools to help struggling students. Researchers are concerned that there is not enough professional development for implementing RTI, causing students to suffer in the RTI program. Researchers are concerned that RTI may not be the program to help struggling students in education.

Practice under investigation.

The practice under investigation will be looking to see if RTI is an effective practice for struggling students. There will be an investigation to see the difference in student achievement of students taught with RTI and students not taught with RTI. This will be done by, assessing year ending data of students on RTI and students not on RTI. The data will then be compared and evaluated to see successes, or a need for improvement.

School policy to be informed by study.

The district has written procedures regarding RTI that we must follow based of what the State of Missouri has allowed. IDEA also has regulations on RTI. To make sure RTI is effective assessing teacher’s knowledge of RTI will be crucial in RTI being used effectively.

Conceptual underpinning.
All learners involved in interventions are different. By incorporating RTI in with fidelity should increase student learning. To implement with fidelity the district need to give professional development, and have all three tiers of RTI in place for the students. Correctly implementing RTI is what will make the difference in a struggling student achievement. If teachers are not given appropriate professional development, and training the teachers will not be able to use appropriate strategies, or skills when using the interventions with the students. The three tiers of interventions will help students reach mastery. By giving the teachers strategies, and skills students improvement will be significant to the student.

Statement of the problem.

If RTI is not an effective practice to help student achievement then a new program, or adequate professional development needs to be teach teachers how to be more effective in implementation of the RTI process.

Purpose of the study.

The purpose is to progress student achievement through the use of RTI.

Research questions.

RQ#1: Does RTI effect students achievement in reading?

RQ#2: Is there a significant difference in student achievement between first semester and second semester?

Null hypothesis.

There is not a significant difference in student achievement in RTI between first semester and second semester.
Anticipated benefits of the study.

The anticipated benefits of the study are to be able to see the progress of students learning through the implementation of RTI. It study will also look at achievement of RTI students, this way we can see the growth through the RTI process. Finally to be able to improve RTI professional development in school districts in Missouri.

Definition of terms.

RTI- Response to Intervention- An education program designed to help struggling students ultimately achieve mastery. It can be behavioral and academic.
IDEA- Individuals with Disability Education Act- A federal law designed to protect rights of students with disabilities, and ensure all students have a free and appropriate public education.
Fidelity- Having accuracy and attention to all details in a process.

Summary.

A study was conducted to see if there was a difference between student achievement between students taught with RTI and students not taught with RTI. If the year ending data shows no significant growth of RTI students, then our district needs to think about implementing more professional development to make RTI effective. RTI is research based and if implemented with fidelity it should show in the progress of students. After this study has concluded districts, and the state of Missouri can benefit by seeing data on interventions, and giving RTI staff appropriate RTI implementation training on the three tiers of RTI.
REVIEW OF LITERATURE

Response to intervention according to Dixon (2013) is a team of professionals in a schools setting work together to help and identify struggling students, and give them adequate support to help the students reach their potential. RTI is a process and helps students achieve more than what they could in a classroom. Nellis (2012) says that RTI is a process that ensures all resources are being used to support successful outcomes for all students involved in the process. Guskey and Jung (2011) said RTI is a systematic, tiered instructional process for students, and offers teachers the ability to different problem solving approaches. All definitions of RTI are based on student improvement. RTI is a three-tiered approach. The bottom tier is for all students and is given during general instruction; tier two is small group instruction and is validated. It becomes validated when the student has an assessment to see if the intervention is working, if it is not validated then a new intervention plan will be made. Fuchs and Vaughn (2014). Working up the model the interventions becomes more intense, and assessment based Swerling, Chessman (2012). RTI is a tool schools in Missouri use to help students achieve, and document. The process must be done with fidelity.

RTI has many pieces that are necessary to make it effective for student achievement. Kelleher (2011) states that RTI can be improved by 50% with adequate professional development. The process of RTI is a difficult one with many ways of helping student achieve. Nellis (2012) discusses using a system change approach, and articulate a clear processes and procedures. She wants stakeholders involved in the processes and know how the system works. By letting the
stakeholders know the school can cut down on confusion and questions with RTI. A clear process, and procedures in RTI will help parents/guardians understand the process, as well as their rights on asking for special education services if RTI is not working for their child. If this is not done then the school will be dealing with parents and stakeholders.

Noll (2013) said that there are 7 ways to kill RTI. Number two on Noll’s (2013) list was ignoring the effectiveness of tier one instruction, and not teaching properly. He states that “30 minutes of interventions cannot make up for poor classroom instruction during the other five to six hours of a school day” Noll (2013, p 3). The teacher should ensure learning should take place. If a teacher is not teaching effectively the RTI will fail. Noll’s number three is failing to provide staff with proper professional development in RTI. He says that schools should provide on-site professional development so teachers can have assistance with implementing literacy concepts in their own rooms, with their own students, and using their own materials, Noll (2013). This way a teacher can see how the expert implements it. Finally, the other major concept Noll (2013) discussed is failing to use assessments to see the effects of instruction on RTI. Without an assessment staff cannot see if the student is learning strategies/information in the classroom. Noll discusses how assessment lets you see the strategies the students have learned and if they are acquiring the skill necessary Noll (2013).

By teachers getting the adequate amount of professional development in RTI, teachers can influence a student’s literacy/learning difficulties by 50% Scanlon (2013). Spear and Cheesman (2011) conducted research of 142 elementary schools
on RTI. They found that that staff was not well prepared for implementation, and on a survey the teachers took over RTI the most common answer was “I don’t know” or the wrong answer was chosen. The survey Spear and Cheesman (2011) conducted shows that teachers who had adequate professional development on the three tiers of RTI out preformed the teachers without professional development on the survey and implementation. Teachers and staff that deal with RTI need research based preparation Spear & Cheesman (2011). Nellis (2012) adds that training and support of teachers will correlate with high student achievement, as well as assessing team members of RTI. Team members are assessed in RTI, to make sure implementation is being done effectively, with fidelity. Through adequate development a school should assemble an RTI team that has a clear purpose and roles for each member Nellis (2012).

Burns and Harris (2014) discuss how parents feel about RTI. They say under IDEA (2004) parents have the right to have their thoughts taken into consideration with their child’s education. However, this does not fall into RTI. RTI is a tool, states use to show a student lack of, or gain in strategies. It also shows is the student may have a learning disability Burns & Harris (2014). IDEA regulations regarding specific learning disabilities identification, state agencies:

a) Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10)

(b) Must permit the use of a process based on the child’s response to scientific, research-based intervention; and
(c) May permit the use of other alternative research-based procedures for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10).

After seeing this, it is interesting that Kelleher (2011) writes about parent’s view of RTI. Kelleher (2011) discusses how parents are unsure of the process and the rights that they have. The parents are looking for explanations, evidence, and consistency district to district. Parents discussed how assessments were not done during RTI, and the longevity of RTI Kelleher (2011). Kelleher (2011) says that all of these issues a district can avoid through the use proper management. Management is a key to communicating with parents, stakeholders, and employees.
RESEARCH METHODS

Research Design.

A quantitative study was conducted to see if there was a difference between students at the beginning of the year RTI scores to end of the year RTI scores. The independent variable was the students in RTI, and the dependent variable was the actual RTI score. If the scores of the students do not improve then the RTI process that is in place is ineffective, and professional development must be given to our RTI team to make sure effective strategies and assessments are in place.

Study group description.

Students from an elementary school in the district were chosen to be involved in the study. The students involved were only students who were involved in RTI from the start of the process to the end. The school was a kindergarten and first grade school. A total of 70 students involved with the study. The attendance rate for the school is above 90%, the students who are eligible for free and reduced lunch are at 41%, and it is 73% white out of 250 students.

Data collection and instrumentation.

Data was collected from the school administrator and the reading specialist of the implicated school. The data show pre-RTI and post-RTI scores of the students. The students were assessed on their Fountas and Pinnell scores.

Statistical analysis methods

A t-test is used to assess the difference in achievement scores between pre RTI and post RTI scores. This will be a descriptive analysis. The mean, mean D, t-test, df, and p-value were concluded from this test. There is no difference
between pre RTI and post RTI scores.
FINDINGS

A t-test was used to see if there was a difference in students pre-testing to posting testing results, once involved with RTI. Graphs, tables, and charts are presented to show the results of the study. The principal at the elementary provided the data of the students pre-test and post-test. The information is from the 2013-2014 school year and will show the students growth from pre-intervention, to post-intervention. Fountas and Pinnell have levels that are alphabetical. The graphs and number are based off system. For instance, AA=0, A=1, B=2, and so on.

Figure 1

**T-test analysis results for 2013-2014 pre and post-test for students on RTI. 1st Grade**

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>Mean D</th>
<th>t-test</th>
<th>DF</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test(n=34)</td>
<td>2.29</td>
<td>.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Test (n=34)</td>
<td>9.71</td>
<td>1.85</td>
<td>7.41</td>
<td>-2.53E1</td>
<td>3.30E1</td>
<td>-3.45E-23</td>
</tr>
</tbody>
</table>

A total of 34 first graders and a total of 36 kindergartens received reading interventions. The interventions had the ultimate goal to raise the students Fountas and Pinnell scores. The intervention was based on sight words, phrases, word training, and reading mastery. The mean of the 1st grades pre-test was 2.29, and their post test was 9.71. The difference “mean d” was 7.41. The t-test is -2.53E1 and the df is 3.30E1. The p-value is -3.45E-23. The null hypothesis states that there is no difference between student growths from pre-RTI, to after RTI has been implemented. The null is rejected because the p-value is lower then .25. This shows that RTI is an effective
practice in these students. It shows that this school is doing what is necessary to see student’s achievement through the RTI process.

Figure 2

Students in the 1st grade all showed improvement. The students saw on average an increase of 7.41 from the pre-intervention score to the post score.

Students By actual letter scores the students all reached C. C in our district goal to have all first grade students at. The biggest achievement was by student number 12 and 13. They finished the level on M, and they both saw an achievement from level B on the Fountas and Pinnell scale.
Students average on the pre-intervention score was 2.29 and that number increased to 9.71 in the post-intervention. This is a significant difference and shows that the intervention in this school is working properly. The achievement score is adequate.
A total of 36 students in kindergarten went through the RTI program for CA/Reading. The students mean pre-test score is .78 and the post-test is 3.97. The difference “mean d” is -3.19 between the pre and post scores. The t-test score is -1.68 and the df score is 3.5. The p-value is 2.57E-18, which makes the null hypothesis rejected since it is less than 0.25. This shows that the students in kindergarten who received RTI in communication arts and reading saw a positive achievement in 2013.
This graph represents the 36 kindergarten students on RTI. The graph shows that 16 students were at ~AA on the Fountas and Pinnell reading level, 13 students at level A, 6 students at B, and 1 student at C on the pre-intervention. Students on average would grow about 3 levels on the Fountas and Pinnell spectrum. Student 32 reached level G on the spectrum, and was the biggest achiever.
Students in pre-testing saw an average beginning score of 0.78. The post scores were 3.97. This graph represents the growth of the students. It shows how the students in this setting achieved and reached the potential of RTI.

Through the data collection it answered the research questions: “Does RTI effect student’s achievement in reading, and is there a significant difference in student achievement between first semester, and second semester? Figures 1 through 6 all show how RTI is an effective practice to help educate students in communication arts and reading. All the students saw achievement and reached goals set forth by the district. The pre-interventions scores and post-interventions scores of the students demonstrate how much the students were able to progress within the year. By assessing the data, this elementary school has effective practices in place to help students achieve in RTI.
Conclusions and Recommendations

From conducting this study it is evident that students who are involved in the RTI process at this particular school show an adequate amount of growth through the process. It shows that students in kindergarten increased in reading level by 3.19, and in first grade by 7 levels on the Fountas and Pinnell.

The study shows that the null hypothesis is rejected with confidence. The student’s achievement rate was high in all students assessed. The p-value for 1st grade is 1.73 and kindergarten is 2.57. Both of these reject the null hypothesis with confidence because the alpha level is 0.25. There is a positive difference in achievement scores for students pre-RTI and post-RTI.

The conceptual underpinning of this study was supported. By working in, and communicating with staff RTI is support with professional development in the area of RTI. As Spear and Cheesman (2011) said through their surveys, teachers with adequate professional development will be more successful with implementation of RTI. Also Noll (2013) talked about the seven ways to kill RTI, which included lack of professional development, no assessments, and lack of effective teaching. The school in which the study took place demonstrates how to implement RTI and made sure that students are achieving.

From finishing this study there are more studies that could prove beneficial. By checking the student’s progressions more frequently and see how the students improve quarter to quarter. This way we can see more of a progression through out the process. Also by conducting a research on a larger span would show more validity. A study of at least 1,000 would show this.
By conducting the study more questions have risen on RTI. Professional development improves RTI, but what about the rest of the classes, and teachers. Data should be conducting in areas of, math, science, and reading teachers to see how professional development can improve teachers, which in return should improve student achievement. By doing these test, it will show how professional development directly impacts student achievement in math, science, and reading.

Professional development needs to be implemented in schools to ensure the best practices are being used effectively. It will make a difference in students achievement scores, and will make RTI a much more effective tool for districts across the nation. When staff members can see how proper professional development can positively influence their teaching, schools will improve and leaders in education will advocate for the professional development.
REFERENCES

Burns, K., & Harris, A. (2014). Parental Involvement in RTI: Protected or Neglected?. *Communique (0164775X), 42*(8), 1-14.


Spear-Swerling, L., & Cheesman, E. (2012). Teachers’ knowledge base for