# The Impact of Pull-Out Intervention Programs on Reading Achievement in Elementary Male Students

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#### **ABSTRACT**

The purpose of this study was to determine the impact of pull out intervention programs have on reading achievement in elementary male students. The measurement tool was the Fountas and Pinnell Literacy Assessment as well as a Beginning/Advanced Decoding Survey. The study involved the use of a pretest/post-test design to compare data from prior to the intervention (November 2018) to immediately following four months of intervention (March 2019). The participants included a targeted group of "at-risk" elementary-aged students, grades third through fifth. Research showed that participants demonstrated a significant increase in both reading comprehension and decoding. However, when further data analysis was completed on specific grades, only fifth grade participants showed an increase in both areas while third and fourth grade participants increased in comprehension only.

#### CHAPTER I

#### INTRODUCTION

#### Overview

Elementary aged students are presented with tasks daily that require sufficient reading skills in order to be successful. The majority of recent research has focused on specific strategies that will increase a struggling student's reading achievement in order to help with overall academic success. Unfortunately, the most recent National Report Card reports that only thirty-five percent of public school fourth grade students scored at or above the National Assessment of Educational Progress proficient score (2017). These students that are not meeting state criteria and are considered "at-risk", need especially close monitoring and proper intervention to prevent reading difficulties.

It is stated that when students enter the fourth grade, they begin to "read to learn" rather that "learn to read". Fourth grade students are supposed to be able to use their skills in order to gain further information across all subjects and begin to think critically about what they are learning. Unfortunately, about fifty percent of the fourth grade curriculum is unintelligible to a student who cannot read on grade level. Not only does this cause an immediate struggle for students who are presenting problems with reading, it also can lead to long-term consequences. Statistics show that a student who is not a "modestly skilled reader" by the end of third grade is considered highly likely to become a high school dropout. (Fiester, 2012)

During this study, the researcher was a special education teacher in a title one elementary school. Overall, twenty-two percent of the school's population was performing at or above the necessary reading benchmark. After learning about this specific statistic and observing students

who were struggling on a daily basis, the researcher was interested in learning how to best support these students and improve their reading skills. This study was designed to assess the effectiveness of a pull-out Leveled Literacy Intervention group could have on a struggling student's achievement.

#### **Statement of Problem**

The purpose of this study was to determine the impact of pull-out intervention programs have on reading achievement in elementary male students.

# **Hypothesis**

The null hypothesis was that a reading pull out intervention would have no effect on student reading achievement.

## **Operational Definitions**

The dependent variable of this study was the students' *reading achievement*. Reading achievement was measured using the Fountas and Pinnell Reading Assessment, as well as the Beginning and Advanced Decoding Survey. These assessments measured an individual student's comprehension, accuracy, and decoding.

The independent variable of this study was the *pull out reading intervention program*. The intervention program used in this study was a Leveled Literacy Intervention. This intervention was taught in a complete pull out model while the researcher followed a scripted lesson plan provided by the Leveled Literacy Intervention Program. The intervention was delivered for 30 minutes a day during the participants' English Language Arts time.

#### **CHAPTER II**

#### REVIEW OF THE LITERATURE

This literature review will discuss the impact a pull-out intervention model can have on reading achievement for elementary male students. The first section of this review will focus on reading achievement in elementary aged students, specifically those students who are considered at risk in terms of their reading skills. Research explains the importance behind reading intervention and the effect it has on reading achievement. This section will also discuss the fact that research results show a gap between male and female reading achievement. Section two will explain different reading interventions that can be used to increase student achievement. The research presented examines a variety of methods, specifically those associated with Tier 2 interventions. Finally, in section three, the debate between inclusion models and complete pull out models is discussed while research points out the positives and negatives of each.

# **Reading Achievement in Elementary School Students**

Educators will arguably state that reading achievement is one of the most important aspects of elementary education and overall success. If a student is unable to read, they are unable to truly be successful in all academic areas. Unfortunately, studies are showing there is an increase in students who are achieving "at-risk" scores regarding their reading achievement. When discussing what reading achievement consists of, there are a variety of individual skills that play into overall reading comprehension. Research states that word recognition, fluency, vocabulary and working memory are all early pieces of successful reading comprehension in primary grades, while mastering fluency and reasoning abilities becomes the main focus in intermediate elementary years (Ribeiro, Cadime, Freitas, &Viana, 2016).

As elementary teachers continuously make time throughout their day to implement proper reading intervention programs, data is showing an increase in gaps between genders. As stated earlier, there are specific skills that are key to increasing reading comprehension.

However, gaps between genders are showing the most prominent differences in the areas of phonemic awareness, auditory processing, and reading motivation (Limbrick, Wheldall, & Madelaine, 2011). To successfully read a passage and comprehend what one is reading, the foundational skills such as phonemic awareness is significant in understanding the English language. Unfortunately, skills such as these can take time for students who are struggling, and male students specifically show limited patience when learning. One research study concluded that these gaps could stem from the variance in attitude and beliefs towards reading (Bozack, 2011). Furthermore, recent studies that have focused on reading achievement have shown that when using a sample of both boys and girls with identical metacognitive abilities, girls have shown better usage of strategies and have produced better outcomes on assessments related to reading comprehension (Bouchamma, Poulin, & Ruel, 2014).

As students get older, males and females create their own image regarding the meaning of literature. The upper elementary years are when students begin to establish the personal genres that interest them when reading. As boys begin to fall behind in literacy achievement, it is stated that this is becoming a major indicator behind poor self-esteem within the classroom that is then resulting in lower enrollment for higher education (Henry, Lagos, & Berndt, 2012). Although gender gaps are a rising focus among schools today, it has also been reported that these gaps could be influenced by the overall climate of a school. When viewing supporting data, the gap between genders is seen to increase in schools that are classified as having a poor overall climate. On the contrary, when students are members of a school community in which parents

are described as having limited education, the student gender gaps are not as large (Julia, 2016). Despite the surroundings, students can increase their reading achievement if they are engaged in the type of learning that is delivered. Getting to know individual students and their strengths and weaknesses can provide information needed when choosing a proper intervention program which will then increase the chances in closing the gaps.

# **Reading Intervention**

Reading intervention programs are specialized programs that are able to target early reading skills as well as provide strategies that will help contribute to a student's overall ability. When implementing the correct program, teachers can see rapid growth within a school year and watch gaps begin to close. Many educators are familiar with interventions that are labeled Tier 1 and Tier 2 programs, however further training is usually needed to deliver a Tier 3 program to students. Reading Rockets (Kelly, 2011) defines a Tier 3 program as "a program that is to be used intensively for students who are significantly below grade level". The majority of students who are classified as being at risk and contributing to the achievement gaps need Tier 3 intervention programs.

Educators who are willing to use an approach specific to the students' needs based on a careful diagnostic of the student's weaknesses are going to see their Tier 3 or "at-risk" students start to be successful. When students are part of a teaching method that is most compatible with their specific learning style, they will increase their achievement levels. Providing students with targeted instruction to meet their specific deficits would no doubt help improve their reading performance. Research shows that this type of teaching appears to be more effective than a teacher who may favor one explicit way. (Bouchamma et al., 2014)

One other important aspect of providing proper reading intervention is fidelity to the program. Flexibility is a key factor in an educator's everyday schedule and with the abundance of everyday challenges one may experience, it is frequent that a lesson may not go on as planned. Although one may not think that missing small group intervention time here and there is serious, it can be extremely detrimental to elementary students' achievement. Results have shown that teachers commonly monitor the fidelity of a Tier 2 intervention however, reports of fidelity for Tier 1 and Tier 3 interventions are often neglected (Hill, King, Lemons & Partanen, 2012).

As stated earlier, motivation is debatably the largest piece of reading comprehension that can be easily treated. Methods for increasing reading motivation can be intertwined with any type of intervention that teachers are providing for students daily. Increasing student motivation toward reading will have a direct effect on reading achievement scores. Motivation is the primary difference teachers see between genders when reading. Research states that boys can be less motivated to read because of their biological makeup. Boys may be less interested because of the cross-brain activity in boys compared to that in girls. In order to jumpstart their brain, boys need to have a larger dose of sensory or physical stimulation (Senn, 2012). Allowing male students to incorporate a topic of high interest into a reading intervention program will have the direct result of minimizing gender gaps. A study done by Marinak (2013) regarding motivation intervention, stated when educators were able to provide choice, challenge, collaboration, and authenticity, the overall result was that students were reporting a feeling of being highly motivated. This study concluded that when intervention programs consist of those four practices, overall reading achievement increases.

#### **Pull Out Intervention Model vs Full Inclusion Model**

Although research is focusing on what a reading intervention program should include to be successful, some may argue that it is the location of delivery that makes the largest impact. Prior research persuaded educators to teach every child inside the general education classroom and that differentiation could be the difference in improving reading achievement. However, as frustration increases, and motivation decreases, students are choosing avoidance over perseverance. Past researchers have scorned the pull-out delivery model because of social concerns for children being secluded from their peers. However, a recent study done by researcher Rose, Barahona and Muro (2017), indicated that "social impact scores for children who received pull-out services were not significantly different from those of children who did not receive pull-out services" (p. 376).

One study that was completed in Texas, focused on a group of first graders who were considered at-risk in terms of their reading skills. Students in this study were pulled out for 30 minutes each day in which they received intensive instruction on necessary foundational skills. Results showed that these same students were seen to make progress throughout the year. This type of delivery method allowed teachers to work with children on strategies while providing them with instructional level reading material to help connect their learning. If this type of intervention was taught inside the general education classroom, managing other children and dealing with a variety of distractions would limit the effectiveness and as a result would leave these at-risk students unmotivated to participate. (Hedrick & Pearish, 2009)

Within an elementary school, students are willing to participate in activities with students who are on their same level because it limits the possibility of them feeling "dumb" or "stupid".

Providing these at-risk students with a safe environment where they are confident in taking risks

and making mistakes, helps educators focus on foundational skills that may be absent. Delivering successful reading instruction is much more important than who is teaching it and where the instruction is being delivered.

#### **Summary**

In conclusion, elementary aged students who are considered at-risk in terms of their reading achievement should be provided with an intervention program that allows them to make the most progress in a single year. These intervention models should be provided regardless of where the intervention is taking place, as long as the focus remains the same. Educators must service individual students based on their specific needs to allow them to reach their full educational potential. Providing proper interventions at this age is critical for success now as well as later in life.

#### **CHAPTER III**

#### **METHODS**

The purpose of this study was to determine the impact of pull-out intervention programs e on reading achievement in elementary male students. Students identified to participate in in this study were those considered at-risk in reading.

#### **Design**

This study consisted of a quasi-experimental, pre/post-test design that examined reading achievement of students who participated in a pull-out intervention program. The goal of this study was to see the impact a pull-out intervention group can have on an elementary male student's reading achievement who was previously identified to be "at-risk" for reading difficulties. Being "at-risk" does not mean that the child will be unsuccessful or a poor reader, but it does indicate that he or she may need especially close monitoring and proper intervention to prevent reading difficulties. Participants were selected at random and were given a pre-test prior to receiving the intervention. The dependent variable of this study was the reading achievement. The independent variable was a pull-out reading intervention program titled Leveled Literacy Intervention. Following four months of reading comprehension and phonics intervention, participants were given a post-test.

#### **Participants**

The targeted students in this study were those in a title one elementary school who were considered "at-risk" in terms of a benchmark assessment. The male students were randomly selected from the target population of "at-risk" students. In this particular school, an "at-risk student" is one who is currently reading at least two grade levels below their current enrollment.

Only males were included in this study due to all female participants leaving this particular school prior to the end.

Overall, there were 18 students who participated in the study. Students were evenly represented from third, fourth and fifth grade. All students were reading at least two levels below grade level. Seven (39%) of the students had previously received similar reading intervention in years past while eleven (61%) had never received further reading intervention. Ten (56%) of the participants were receiving special education services and two (11%) were receiving English Language services. Twelve (67%) of the students were African American, three (17%) were White, two (11%) were Hispanic and one (5%) identified from another race/identity.

#### Instrumentation

The instrument that was used for this study was the Fountas and Pinnell Benchmark Assessment. According to Fountas and Pinnell (2010), a field study had been completed to analyze the reliability and validity of the program. Throughout this data analysis, the Fountas and Pinnell assessment was compared to having a strong association with "Reading Recovery Text Level Assessments which had recently been recognized as an effective scientifically-based reading program". After two and a half years of data analysis and field testing, "the assessment systems were demonstrated to be both reliable and valid measures for assessing students' reading levels" (Fountas and Pinnell, 2010, p.13).

### Procedure

All third, fourth and fifth graders in this title one school were using the Fountas & Pinnell Benchmark Reading Assessment. Students were assessed prior to the beginning of the second quarter and again at the end of the third quarter. The researcher along with support staff, general

education teachers and special education teachers administered this assessment after receiving an abundance of professional development on proper test administration.

Participants were placed in three groups with their respective classmates in which they received Leveled Literacy Intervention (LLI) four days a week. This intervention was taught in a complete pull out model while the researcher followed a scripted lesson plan provided by the Leveled Literacy Intervention Program. The intervention was delivered for 30 minutes a day during the participants' English Language Arts time.

When receiving LLI, the participants with similar reading levels worked in a small group setting on comprehension strategies while reading non-fiction and fiction books that were on their independent and instructional level. Each lesson would give students the opportunity to read two different books as they re-read a previous book and finished a lesson while reading a new one. Throughout the lesson, students spent time working with the instructor focusing on vocabulary instruction, phonics instruction, fluency and comprehension. Certain lessons required students to respond to their reading through a writing prompt in which students were given a sentence starter and/or graphic organizer to guide their response. The researcher would spend time listening to each participant read while keeping a running record at least once a week to track progress.

Participants received this same intervention model for four months (November-February) before being re-tested using the same assessment tool. A typical intervention lesson begins with a short phonics lesson focusing on a specific principle that appears in their reading that day. For example, a phonics lesson may focus on words with the short or long "i" vowel sound. Students would participate in an activity such as a word sort that allowed the instructor to informally assess each student on that skill. Following a phonics lesson, students moved into an

introduction of a new text in which the entire small group participated in a book walk that taught them how to connect to prior knowledge and establish a purpose for reading. Students then independently read the story before returning to the group to discuss and revisit the text. This portion of the intervention group was where students learned different comprehension strategies such as using post-its to recall key details. On the following day, the entire group collectively looked back on their reading from the previous day and discussed comprehension questions.

Before completing a comprehension writing assignment (which occurs every other day), students got a mini lesson on a vocabulary word frequently found in the text. To wrap up this specific lesson, students ended the group by focusing on their fluency skills such an intonation and expression. To ensure consistent progress, individual students were monitored on their fluency by completing a weekly reading with their instructor.

#### **CHAPTER IV**

#### **RESULTS**

The purpose of this study was to determine the impact of pull-out intervention programs on reading decoding and reading comprehension in elementary male students. As shown in Table 1, the overall mean across all three grade levels significantly increased in both decoding, t(17)=-6.77, p<.05 and in comprehension, t(17)=-4.28, p<.05.

Table 1

Overall Mean (Including All Grades) on the Decoding and Comprehension Test

Test	<b>Number of Students</b>	<b>Mean Pre-test Score</b>	Mean Post-test Score
Decoding	18	46.22	56.67
Comprehension	18	4.22	5.61

When breaking down the data to look at the impact the intervention program had on specific grade levels, it can be seen in Figure 1 and Figure 2 that there was a general increase in the mean at each of the grade levels. However, when looking at each individual grade level, the significant difference within the data varies. The third grade data showed a significant difference in decoding data, t(5)=-3.85, p<.05, but did not show one in comprehension data, t(5)=-1.73, p=.14. Comparable to third grade, fourth grade data also showed a significant increase in decoding mean scores, t(5)=-3.37, p<.05, but did not show one in comprehension, t(5)=-1.73, p=.14. Unlike the previous two, fifth grade data was able to show a significant increase in both decoding, t(5)=-3.86, p<.05 and in comprehension, t(5)=-4.54, p<.05.

Figure 1-Mean Decoding Scores by Grade

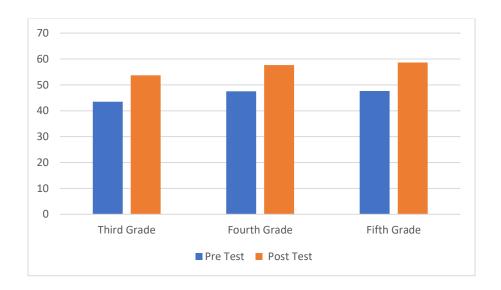
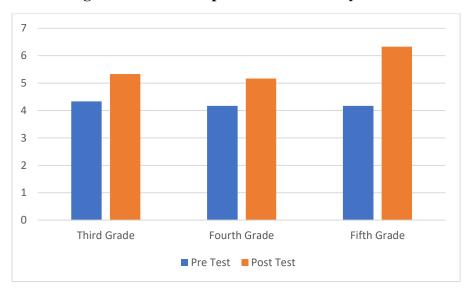


Figure 2- Mean Comprehension Scores by Grade

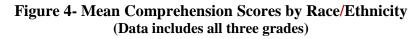


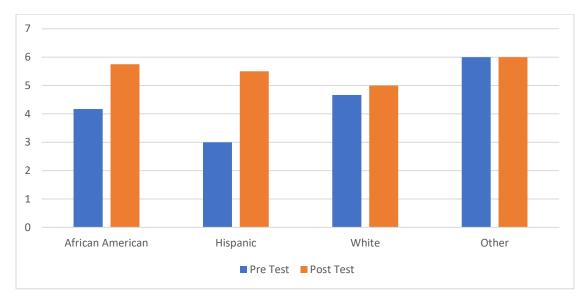
Another area that was highlighted by this study's data was the difference in scores across different race/ethnicity. As shown in Figure 3 and Figure 4, all races showed an increase in mean in both comprehension and decoding. The data used for this analysis included all three grade levels and was not evenly distributed due to the number of students described as each race. When viewing the data for the twelve African American students, the study showed that there was a

significant increase in both comprehension scores, t(11)=-5.41.86, p<.05 as well as the decoding scores, t(11)=-5.06, p<.05. The number of Hispanic and White students in the sample were very small and they failed to show any significant increases in the decoding t(1)=-3.00, p=.21 and comprehension scores t(1)=-5.00, p=.13.

70
60
50
40
30
20
African American Hispanic White Other

Figure 3- Mean Decoding Scores by Race/Ethnicity (Data includes all three grades)





In summary, the study concluded against the null hypothesis of a reading pull out intervention having no effect on student reading achievement. Data from this study was analyzed using the dependent *t* test in which the overall pre and post test scores for both decoding and comprehension showed a significant difference. After further analyzing the specifics of the data, it can be stated that the fifth-grade population showed a significant increase in both areas while third and fourth grade were limited to a significance in decoding only.

#### **CHAPTER V**

#### **DISCUSSION**

The purpose of this study was to determine the impact of pull-out intervention programs on reading decoding and reading comprehension in elementary male students. The null hypothesis of pull out reading intervention having no impact on reading achievement was rejected.

#### **Implications of Results**

The overall results of this study indicated that pull out reading intervention does impact reading achievement in elementary male students. However, the data collected from individual grade levels did not show the same results. The fifth-grade students showed a significant increase in both the areas of reading comprehension as well as reading decoding. Contrarily, both third and fourth grade data presented a significant increase in decoding only.

The overall data showed a significant increase in both areas of reading achievement across all three grades. However, when separated into race/ethnicity categories, the African American sub-group was the only group to show a significant increase in either area. Due to the size of the African American population being much larger than the other three, the overall data could be skewed if not presented with the individual data as well.

#### **Theoretical Consequences**

This study provided evidence that a pull-out reading intervention had a positive impact on reading achievement. These findings were consistent with previous studies that used similar intervention strategies. For example, a similar research study was completed with a group of first grade "at-risk" students in which they were pulled out of class for thirty minutes each day to

work on foundational reading skills. Researchers Hedrick and Pearish (2009) found that providing the intervention program away from the general education curriculum allowed for connection to instructional level text while working on foundational reading skills. As stated in the study previously mentioned as well as observed in this study, students appeared more confident while working on instructional level skills away from classmates performing on a higher level which can also help increase achievement. Previous studies such as this one acted as a theoretical background for leading a successful pull-out intervention across grade levels.

# Threats to Validity

When conducting a study, it is possible that there are threats to validity. In this particular study, the participants were not randomly selected as they were selected on the basis of their current reading performance. The sample only consisted of male students based on convenience which does not focus on a broad range of individuals. Although there was a presence of male students from three different grade levels, the sample from each was small which can prevent the results from being generalized.

Another threat to validity within this study was the lack of a control group. Students that were selected for this study participated in a pull-out intervention program for four months and completed a pre-and post-test to compare their growth. This data does not show that it was specifically the intervention provided that caused the increase in reading achievement or the fact that students were pulled out of the general education classroom.

#### **Connections to Previous Studies/Existing Literature**

There have been several similar studies conducted on different types of reading interventions in which the impact they had on reading achievement was positive. A similar study

mentioned earlier done by Hedrick and Pearish (2009), which was completed with a group of "at-risk" first graders focused on foundational reading intervention in a pull-out setting. This study showed comparable results in which reading achievement increased after students participated in the intervention. Similar to this current study, participants were chosen because of being labeled "at risk" for reading failure. Although alike in many ways, the study completed by these researchers focused specifically on first grade compared to a variety of grade levels.

Another study that helped guide this current research was one completed by Bozack (2011) in regard to digging deeper into increasing male academic achievement. Participants were chosen due to being considered "at-risk" for reading failure and participated in a group outside the general classroom. Although the focus of the research was increasing academic motivation in male students, the findings were easily translated to motivating male students while participating in an intervention program. The study concluded that achievement gaps could stem from variance in attitude and beliefs towards reading. These results persuaded the use of choice in instructional text throughout the duration of the current research program.

#### **Implications for Future Research**

If this study were to be conducted again, there are a variety of areas that could be implemented differently to increase the validity of the results. Researchers completing this study should increase the sample size of students as well as ensure that it includes a diverse population of both male and females. When focusing on the impact of the intervention program itself, the researcher can implement the program with a variety of leveled learners rather than limiting it to students who are considered "at risk" for reading failure.

If focusing on the effectiveness of a pull-out intervention, researchers could create a control group that receives the same program inside the general room which would allow the researcher to compare the impact of environments. Finally, this study was completed over one academic quarter. In order to obtain more comprehensive results, the research for this study could be done over a longer time period.

# **Summary**

In summary, this study was completed to determine the impact pull out intervention programs have on reading achievement in elementary male students. The overall results rejected the null hypothesis by proving a significant difference in both reading comprehension and reading decoding. Although the null hypothesis was rejected, the findings showed that only the fifth-grade population showed a significant difference in both areas of reading achievement, while both the third and fourth grade groups did not show a significant difference in either area.

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