

VOCABULARY INSTRUCTION AND ITS IMPACT ON THIRD GRADE MAP  
SCORES

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## ABSTRACT

The study was completed to see if Missouri Assessment Program (MAP) test scores have improved over the last two years. Has the AYP (Annual Yearly Progress) for English language arts improved since there has been a focus on vocabulary? Third grade teachers across the district were interviewed to see what their vocabulary instruction looks like. Last year's third graders were also surveyed to see what their opinion is on vocabulary and if they think the instruction they received helped them on the MAP test. What had teacher's been doing to improve vocabulary instruction? Had they been consistent with their instruction? How many new words did they teach a week? Did they teach new words in isolation or did they wait until they come across them in literature? These are the issues in this research paper.

For this study a T-test analysis was completed to compare the 3<sup>rd</sup> Grade ELA MAP scores. From 2009- 2011 teachers in the district where the study was conducted, focused their language arts instruction on comprehension skills. This included teaching children how to ask questions as they read, make inferences, make predictions, synthesize what they read, and visualize. Then from the fall of 2011- 2013, the teachers in the district focused on vocabulary. The T-test showed that there was a difference between MAP scores from 2009-2011 and 2012-2013. The mean average of third grade students who scored advanced from 2009- 2011 was 24.6. The mean average of third grade students who scored advanced from 2012- 2013 was 26.15. This is not a significant difference, but still a difference.

## INTRODUCTION

*Background, issues and concerns.*

This study was completed to find out if vocabulary instruction is more effective than comprehension strategy instruction. Research has shown that vocabulary has such a profound effect on students' reading skills. This study was conducted to find out if this is true for the students in a Midwestern School District. From 2007 until 2011 the school district strictly taught the comprehension strategies. Students made inferences, asked questions, made connections, synthesized, and visualized the text. Two years ago the district vocalized that they want the teachers in the district to spend time with vocabulary instruction. With Common Core State Standards developing, the school district wanted to focus instruction on college readiness. Administration gave professional development to the teachers in the district, stating that vocabulary was an area that the students in the struggled with. In order for students to be able to comprehend college text and become life-long readers, there would need to be a focus on teaching vocabulary. Part of the professional development was over Tier 1, Tier 2, and Tier 3 words. Tier 1 words are common words found in reading. Tier 2 words are words that have more than one syllable and may have different uses of the word. Tier 3 words are content vocabulary words (words that are specific to math, science, or social studies). Another thing stressed to the teachers was how important it was to teach words in context and students needed to be able to not only know words, but to be able to use them in their own context. Some difficulty came when trying to identify what made words Tier 2. An activity was completed with the teachers where they read a passage and had to find the Tier 2 words. There was some debate about whether or not a word was a Tier 2 words.

Did Tier 2 words always have to have another meaning? Did Tier 2 words have to be hard to spell? Were these just hard words? These were questions that were never answered.

*Practice under Investigation.*

This research put vocabulary instruction under the microscope to see if it helps students with their reading skills. The practice under investigation looked at MAP ELA scores from the past five years to see if there was a difference between vocabulary focused instruction and comprehension strategy focus. Research provides a lot of evidence that there is a strong tie between vocabulary and reading skills.

*School Policy to be Informed by Study.*

It is the practice of the School District where the study was completed that teachers provide vocabulary instruction to all students in the district.

*Conceptual Underpinning.*

Vocabulary instruction will improve students' MAP scores in English Language Arts. Students with higher vocabulary have better reading skills. Therefore, they will do better on the MAP test. Articles have stated that vocabulary is one of the five major components of reading. Oral vocabulary provides a foundation for children's reading and print knowledge. After 3<sup>rd</sup> grade, vocabulary is strongly related to reading comprehension. Children could read any word in the world, but if they don't know what that word means, it won't help them understand what they're reading. Vocabulary based instruction helps students use strategies and build word knowledge. Students can use context clues to help them figure out what words mean. When students take all their time trying to figure out words, they lose the meaning of the text. Articles have stated that

vocabulary is one of the five major components of reading. Oral vocabulary provides a foundation for children's reading and print knowledge. After 3<sup>rd</sup> grade, vocabulary is strongly related to reading comprehension (Verhoeven, 2008). Research also shows that students need to use the words in context and not in isolation (Wood, 2009). Giving a word and having a student look it up in the dictionary is not as effective as having a student find a word in the text and then be able to apply the word. Finally, research shows that it is very important to teach vocabulary words frequently and in more than one meaning or situation. Single exposure does not help build vocabulary.

*Statement of the Problem.*

The problem is determining what helps students' reading skills the most. If vocabulary makes such an impact on students' reading then teachers need to make that the focus of their literacy block.

*Purpose of the Study.*

The purpose of this study was to see if there is a difference between vocabulary rich instruction and traditional comprehension strategy instruction. If the research shows that vocabulary-focused instruction made a big difference on student achievement, then teaching will change. Vocabulary will be a priority and a daily focus.

*Research Questions.*

RQ#1. Is there a difference in student achievement between vocabulary based instruction compared to comprehension strategy based instruction?

RQ#2. Do word walls help students with content vocabulary?

*Null Hypothesis.*

There is no difference in student achievement between vocabulary-based instruction compared to comprehension strategy based instruction.

*Anticipated Benefits of the Study.*

The benefits of this study would greatly affect student achievement and teacher instruction. If teachers find out there is a huge improvement in 3<sup>rd</sup> Grade MAP scores with an increase in vocabulary instruction, we can duplicate those instructional strategies.

*Definition of Terms.*

MAP- Missouri Assessment Program, assessment starts in 3<sup>rd</sup> grade.

Inferences- when students make an inference as they read, they are figuring out what something means based on what they know, the pictures, and the text.

Synthesizing- how the student's thinking changes as they read.

Word Walls- a list of words on the wall, organized in alphabetical order that acts as a visual for students for spelling, vocabulary, and as a study guide.

Content Vocabulary- vocabulary that is relevant to a specific content area such as: science, math, social studies

ELA- English Language Arts previously referred to as Communication Arts.

DESE- Department of Elementary and Secondary Education.

*Summary*

This research showed how vocabulary instruction is a necessary teaching practice. The problem is knowing what helps students the most with their reading skills. The benefits of this study are great. Research has shown that vocabulary has such a profound effect on students' reading skills. Articles have stated that vocabulary is one of the five

major components of reading. Oral vocabulary provides a foundation for children's reading and print knowledge. After 3<sup>rd</sup> grade, vocabulary is strongly related to reading comprehension. If teachers find out there is a huge improvement in 3<sup>rd</sup> Grade MAP scores with an increase in vocabulary instruction, we can duplicate those instructional strategies.

## REVIEW OF LITERATURE

The Missouri Assessment Program (MAP) is an annual standardized test taken by students in grades 3-8. Students are tested over English language arts, math, and science (grades 5 and 8). It is a mandatory state assessment taken in the spring. It includes selected response (multiple-choice), constructed response (short answer), and performance events (tasks). The English language arts portion requires students to read and evaluate fiction, poetry, drama, and nonfiction (including biographies, newspapers, and technical manuals). Students are then given a score for their performance and an achievement level. Achievement levels are below basic, basic, proficient, and advanced. Schools need to make AYP (Annual Yearly Progress). There is a huge emphasis for students, teachers, schools, principals, and school districts to do well (proficient or advanced achievement levels) on the MAP that holds them accountable (DESE, 2013).

In recent years there has been a focus on teaching students vocabulary. Vocabulary instruction will improve students' MAP scores in English Language Arts. Students with higher vocabulary have better reading skills. Therefore, they will do better on the MAP test. Articles have stated that vocabulary is one of the five major components of reading. Oral vocabulary provides a foundation for children's reading and print knowledge. After 3<sup>rd</sup> grade, vocabulary is strongly related to reading comprehension (Verhoeven, 2008). Children could read any word in the world, but if they don't know what that word means, it won't help them understand what they're reading.

A best practice in education is something that will show growth for all students. There are several concepts when it comes to vocabulary that teachers should become



aware of and practice. According to Jalongo & Sobolak (2010), teachers should be teaching receptive and expressive vocabulary. Receptive vocabulary is language being heard or read. Expressive vocabulary is produced through speech or writing. Children's receptive vocabulary is often four times greater than their expressive vocabulary. This leads us to breaking up vocabulary words into three tiers. Tier one words are common words that are easy to illustrate. Tier two words are more complex and abstract, like "courage" or "confused". Tier three words are instructional words, for math social studies, or science. Students need multiple exposures to these tier two words. These are the words that have more than one meaning or use. Research also shows that students need to use the words in context and not in isolation (Wood, 2009). Giving a word and having a student look it up in the dictionary is not as effective as having a student find a word in the text and then be able to apply the word. There are three steps in introducing a vocabulary word: introduction, connection, and application. Many times vocabulary comes from unexpected moments. When reading a book aloud to the class, a teacher may come across a word that the students are unfamiliar with. Let's say the teacher is reading a book about sharks and they come across the word "predator", what a perfect moment to talk about what a predator is. However, sometimes these words arise because of the content of the read aloud. The text dictates the vocabulary the students are going to learn. Often times the word is highly specific and teaches the student only one way to use the word. Another issue is that vocabulary will differ from classroom to classroom. These teachable moments are opportunistic. Brabham & Lynch-Brown (2002) did a study to show the importance of reading aloud to children and discussing the book as the teacher reads. They found that 76% of elementary school teachers read aloud daily and

100% read aloud weekly. 90% of those teachers say they read to their students for enjoyment, not instruction. 11%-28% say they read to stimulate discussion or build vocabulary and comprehension. The study tested three different read aloud methods: interactional, performance, and just reading. They gave a pre-test and post-test to first and third graders for vocabulary before and after each method. The effects of reading aloud styles were significant between just reading and interactional and performance. Just reading aloud produced the smallest gain. Performance and interactional read-alouds made the most gain, especially with third graders. Therefore, just reading to children is not enough. It's the discussion that makes the literacy growth. Teaching vocabulary does not have to be boring. Teach vocabulary whenever possible in the classroom. Interchange words for the gymnasium with auditorium. By saying, "We are going to the lavatory, that means restroom", we can teach children vocabulary in a more meaningful way. They see those words being used in daily practice. The same goes for content vocabulary. By interchangeably using "addend" and "partner" students understand and can use the math vocabulary. Students need to learn 5 to 6 new vocabulary words a day (Lazaros, 2012). Therefore teaching vocabulary needs to be engaging. Using computers to access the Internet and play computer games to learn vocabulary terms is engaging and can enhance literacy learning. Despite children's background and socio-economic status, they still need to make gains in expressive and receptive vocabulary. Technology is a great way for students to become familiar with terms such as Internet, keyboard, mouse, PC, and URL.

Research shows that it is very important to teach vocabulary words frequently and in more than one meaning or situation. Single exposure does not help build vocabulary.

One way teachers can do this is through read-alouds. Teachers need to be using rich vocabulary, sophisticated words, and synonyms. A Study was conducted that found students (ages 5-12) on average acquire about 3,000 new words each year (Gardner, 2004). The bulk of those vocabulary words came through natural reading experiences (not vocabulary directed passages with worksheets). Students grow their vocabulary through extensive reading. Teachers need to allow ample time for independent reading of self-selected texts. Students should have time to read books that are slightly above his/her own reading level. There is also a strong relationship between reading at home and school. Through reading at home and school, students will broaden their vocabulary. Another important thing to remember, studies show, that if students aren't understanding 19 of every 20 words they read and knowing what those words mean, they aren't comprehending at all. Research and articles reiterate the importance of knowing vocabulary in order for students to become proficient life-long learners.

Research also shows that students acquire vocabulary subconsciously. Students' conscious is focused on the meaning of the story. This is called incidental learning. "Many people, I am sure, would not read at all if they were compelled to work on their spelling and vocabulary while trying to enjoy a good book" (Krashen, 1989, p. 448).

A study was done with 969 elementary schools, 3<sup>rd</sup>-6<sup>th</sup> grade (Corrigan, 2011). This study found that teachers' ACT scores predicted students' achievement scores. This means there is a strong relationship between teachers' verbal ability and student achievement in reading.

Because vocabulary is so important in order for students to comprehend, classrooms should be full of print-rich vocabulary: books, computers, charts, labels,

bulletin boards, posters, displays of student work, and word walls. In the elementary grades, word walls help students with spelling patterns and high frequency words. Upper elementary teachers may use word walls for math (symbols), social studies (historical terms), language arts (challenging words to spell), or science (terminology). Students can use these word walls for learning, studying, writing, and completing assignments.

Teachers can use word walls for teaching new terminology. There are a lot of classrooms that have word walls. Typically they are a list of sight words or spelling words. This is a good start. However, vocabulary knowledge and word walls can be much more effective if the word walls include graphics and organizers. Another great thing about these word walls is that the students create them. The students can work by themselves or with a partner. Teachers monitor the vocabulary words, definitions, visual support, and handwriting. Because only those four things are being monitored, students actually have more creative input that was not adult influenced. Using a visual support is not just adding a picture, but students can staple a baggie of stuff next to the vocabulary word to demonstrate what that word means. Students can also play games with the word wall. One game is called “bag and tag”, where students pick a word out of the grab bag (a word from the word wall) and then give clues to the other students for them to guess what their word was. It is important to have students take ownership in the vocabulary word wall. They are more likely to use it. The word wall itself does not teach vocabulary. It should be a tool for teachers and students to use to enhance vocabulary (Henrichs & Jackson, 2012).

In closing, when used with effective teaching practices, vocabulary can make a huge difference in students’ reading skills.

## Research Methods

### *Research Design.*

Student and teacher surveys were conducted as well as the MAP scores of all the 3<sup>rd</sup> graders in the school district from the last 5 years. The MAP scores will be the dependent variable. The independent variables will be vocabulary instruction and comprehension strategy instruction.

### *Study Group Description*

The study group included all 3<sup>rd</sup> graders in the school district.

There are 11,462 students enrolled in the school district:

- 1.3% Asian
- 9.2% Black
- 6.70% Hispanic
- .40% Indian
- 79.30% White

The school district where the study was completed is a mix of rural and small community schools with 62.9% of students with free or reduced lunch.

### *Data Collection and Instrumentation*

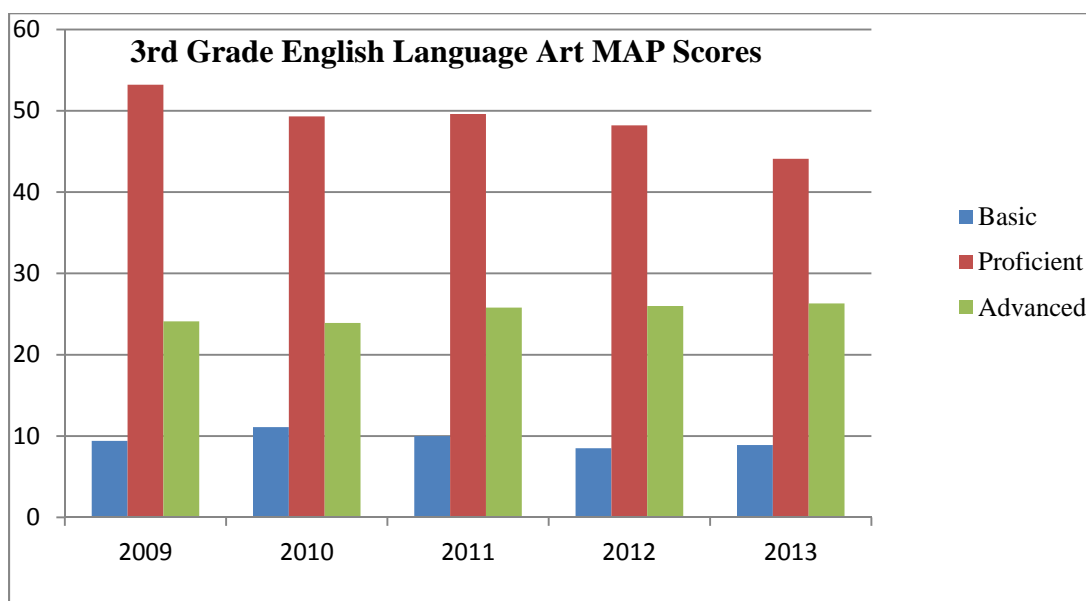
The DESE (Department of Elementary and Secondary Education) website was used to obtain the necessary MAP test scores.

### *Statistical Analysis Methods*

A T-test was also used to compare two different sources: MAP test scores prior to teaching vocabulary and after the district focused on vocabulary instruction.

## Findings

Figure 1



The study examined three categories in which a student can score on the ELA portion of the MAP test: basic, proficient, and advanced. The students who scored basic fall below the state's expectation for achievement. The state requires students to reach proficient or advanced. From 2009 until 2011 the district where the study was completed focused their instruction on comprehension strategies. From the fall of 2011 until 2013 the district focused their instruction on vocabulary. This chart shows that the mean of third grade students who scored basic from 2009- 2011 was 10%. The mean of third grade students who scored basic from 2012-2013 was 8.7%. There were 1.3% less students scoring below the states requirements when there was a focus on vocabulary instruction. However, the mean of third grade students who scored proficient from 2009-2011 was 50.7%. The mean of third grade students who scored proficient from 2012-2013 was 46.15%. The mean of students who scored advanced from 2009- 2011 was 24.6%. The mean of students who scored advanced from 2012- 2013 was 26.15%.

Figure 2

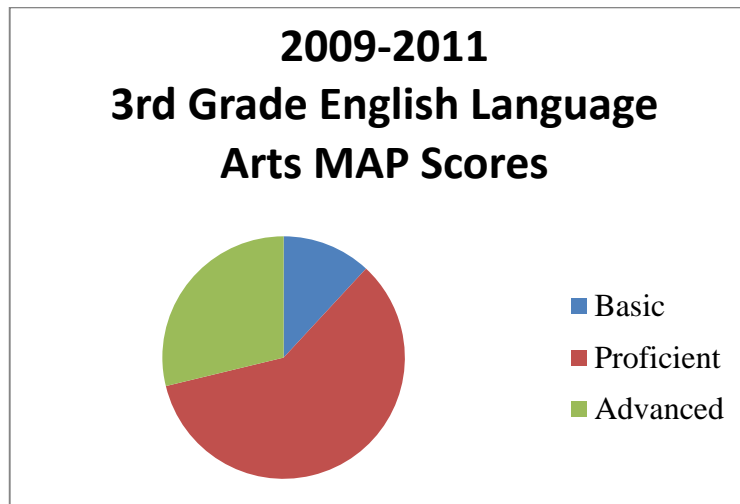
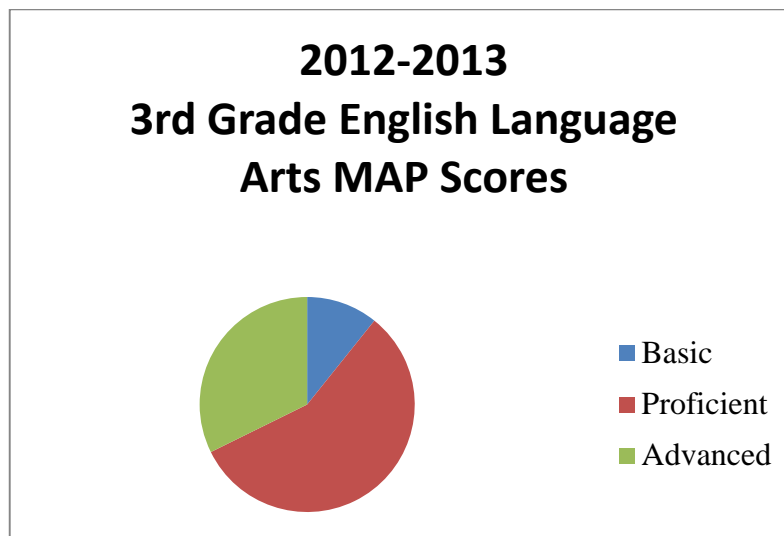


Figure 3



These pie charts show the averages between the years of 2009-2011 and 2012-2013. From 2009-2011 to 2012-2013 students went from 12% to 11% for basic. From 2009-2011 to 2012-2013 students went from 59% to 57%, slightly lower for proficient. The students scoring advanced went from 29% (2009- 2011) to 32% (2012-2013). That was a significant difference.

Figure 4

t-Test Analysis Results for 2009- 2013 3<sup>rd</sup> Grade MAP Scores

Source	Mean	Mean D	t-Test	df	p-value
<b>2009-2011</b>	24.6				
<b>2012-2013</b>	26.15	1.55	-1.97	3	0.043

Note: Significant when  $p \leq 0.25$

The independent variable for this study was the years. The dependent variable was the MAP scores. For this t-Test, the years were categorized into two groups. 2009-2011 were in one group and 2012-2013 was in the second group. The mean average of third grade students who scored advanced from 2009- 2011 was 24.6. The mean average of third grade students who scored advanced from 2012- 2013 was 26.15. From 2009 until 2011 there was a focus within the study group on comprehension strategies, such as inferring, questioning, predicting, visualizing, and synthesizing. From 2012-2013 those comprehension strategies were still being taught, however the focus was on teaching vocabulary. The t-Test was -1.97, while the degrees of freedom were 3. The difference between the means was 1.55.

The null hypothesis was: There is not a significant difference between ELA MAP scores from 2009-2011 and 2012-2013.

The null hypothesis is rejected because the p-value is 0.043, which is less than the alpha level of 0.25. This shows that there is a significant difference between teachers who use vocabulary based instruction rather than strictly teaching the comprehension strategies. Teachers had success using read alouds to help students strengthen their vocabulary. When students could read and then use the vocabulary word in context, they understood the text better. It also helped, especially with content area vocabulary, for



students to make an illustration that demonstrated what the vocabulary word meant.

Perhaps it was the most powerful when students could use a vocabulary word in a sentence, in another context, and illustrate the word.

### Conclusions and Recommendations

The two research questions were: RQ#1. Is there a difference in student achievement between vocabulary based instruction compared to comprehension strategy based instruction? RQ#2. Do word walls help students with content vocabulary? The data showed that there was a difference in student achievement between vocabulary based instruction compared to comprehension strategy based instruction. The outcomes from this study showed that students scoring advanced on the ELA portion of the MAP test scored better when the school district focused on vocabulary instruction. The tTest results showed a p-value of 0.043, which is less than the alpha level of 0.25. Therefore the null hypothesis was rejected. The null hypothesis was: There is not a significant difference between ELA MAP scores from 2009-2011 and 2012-2013. There was a significant difference between ELA MAP scores from 2009-2011 and 2012- 2013.

The conceptual underpinning is that vocabulary instruction will improve students' MAP scores in English Language Arts. Students with higher vocabulary have better reading skills. Therefore, they will do better on the MAP test. Articles have stated that vocabulary is one of the five major components of reading. Oral vocabulary provides a foundation for children's reading and print knowledge. After 3<sup>rd</sup> grade, vocabulary is strongly related to reading comprehension. Children could read any word in the world, but if they don't know what that word means, it won't help them understand what they're reading.

Along with collecting the data third grade teachers were asked about their vocabulary instruction. This instruction includes having a word of the day, keeping a vocabulary journal, using read alouds, graphic organizers, and practice pages of passages

and vocabulary questions. Students in the third and fourth grades said that using these tools helped them understand what they were reading. Teachers who used word walls had to remove them for the MAP but shared that the students still looked at the empty space on the wall to visually remember.

Because vocabulary impacted student achievement professional development in the school district needs to increase. Teachers need to hold themselves accountable to teach vocabulary on a daily basis for the sake of their students. A further study could be done to see if math MAP scores improved and in what areas. A study could be conducted to see if reading comprehension improved 5<sup>th</sup> grade science scores. Also, how did the other grades compare on the ELA MAP test? How did other districts compare on the ELA MAP test and what did their vocabulary instruction look like?

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