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The effects of using visuals to support vocabulary development in urban students

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The Effects of Using Visuals to Support Vocabulary Development in Urban Students

By

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A Graduate Field Experience

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(Date)

Abstract

The purpose of this action research study was to use visuals to support vocabulary development in urban students. Since visual support is an affective technique for English language learners, the study was designed to see if this same theory applies to urban students. The participants were a group of eight urban kindergarteners in a large urban school. The intervention took place over an eight-week period. During the first four weeks, students received regular instruction with limited visual support, provided by the reading series. In the next four weeks, students were taught vocabulary words using extra visual support related to the selected vocabulary. The visuals included photographs, still pictures, video clips, realia, other items deemed as appropriate. The results showed students acquired vocabulary words when learning was supported by realistic visual support.

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CHAPTER ONE

Introduction

Struggling urban students continue to fall through the cracks in our educational system. Many urban students come to school with a deficit in pre-reading skills – phonological awareness, letter recognition, alphabetic knowledge and vocabulary. Besides being compounded by poverty-stricken backgrounds (Lovett, De Palma, Frijter, Steinback, Temple, Benson & Lacerenza, 2008), many of these students also lack vocabulary knowledge, due to many contributing factors, including lack of rich vocabulary exposure. As compared to their suburban counterparts, these students come to school with fewer vocabulary words and reading skills. The amount of a child's vocabulary determines his or her success in school (Alvermann & Eckle, 2003; Greenwood & Flanigan, 2008). Carlo, August, McLaughlin, Snow, Dressler, Lippman, Lively and White (2004) pointed out that with meaningful support, students can gain as much as 300 words annually. Given the importance of vocabulary to students' success in school, teachers would need to teach vocabulary through the use of visuals and provide students with opportunities to use these vocabulary words in context to support vocabulary acquisition in the academic context.

School Description

The targeted elementary school in this study was a kindergarten-fifth grade public school. It was part of a large urban school district in the Midwest, and it was located on the northwest side of the city. The school's mission statement was to provide students with a high quality, challenging education. This school also had a behavioral plan, Positive Behavior Interventions and Supports (PBIS), to promote a safe, orderly, and supportive learning environment for all students. The school strove to have its parents, teachers and community members actively

involved in the students' learning. This school participated in district-mandated assessments, Making Academic Progress (NWEA, 2012) and other benchmark assessments, and state-mandated assessment, Wisconsin Knowledge and Concepts Education (WKCE, 2010).

This school stressed the importance of reading and math. The district has adopted a new universal reading series by Houghton Mifflin Harcourt, *Journeys*, in 2010. The district required all schools followed a specific and regimented reading schedule of 90 minutes daily in grades kindergarten through 12th. In addition to the newly adopted reading series, it used Scott Foresman Math series (Charles, Crown, Fennel, 2008). It strongly emphasized mathematical processes and constructed responses (problem solving). Students took monthly assessments to determine their proficiency based on the Common Core Standards (2012).

Funding Sources

This school received funding from various sources. The first source was Title One money. This was a federally funded program for school districts that had a high percentage of students received free or reduced lunch in poverty-stricken areas. About 88% of this school's student population received free or reduce lunch. The second funding source was Title Three. This was also a federally funded program. It funded English as a Second Language (ESL) and related services. The school also received funding for Special Education and support services for the social and psychologist positions. The funding for these support services came from district. The bulk of this school's funding was Student Achievement Guarantee in Education (SAGE) funding. The funding was aimed at reducing class sizes to 15:1 student-teacher ratio. This allocation of money came from state government and funded kindergarten - third grade classrooms.

Program Model

This school was a SAGE school. It had a 15:1 student- teacher ratio in grades K5-3. Besides the 90 minutes for reading and 60 minutes for math on a daily basis, one hour has been allotted to learning and practice writing skill. Social studies and science were being taught daily. There were also programs to service the needs of special focused population. The English as a Second Language Program serviced English Language Learners (ELLS). The Special Education division served K3-K5 students in a small classroom. For special education students in first through fifth grades, two special education teachers pull them out to work with them. With the exception of being pulled out for reading and or math, the special education students participated in all other academic areas. Speech Pathology offered language services for students in grades K3-5 grades.

With the exceptions of four-year old kindergarten, fourth and fifth grade classes, there were two teachers in an undivided classroom. The main goal of this classroom set-up was to promote teacher collaboration and co-teaching to benefit students. Grade level collaboration was also expected to take place as needed or requested by the principal.

This school also had a fully equipped Dell computer lab and smart boards in most of the classrooms. The whole school had access to the computer lab. Each student used the computer as a tool to explore many learning websites and programs on the internet.

Staff Description

There were 31 staff members at this school. Of the 31 staff members, there was one principal, one secretary, 23 teachers certified teachers, four paraprofessionals, and two sanitary engineers. The paraprofessionals assisted with teaching responsibilities and other duties as

assigned by the principal. The staff was composed of the following racial make-up: Asian, Black, and White. The majority of the staff had been in the school district for at least ten years. The majority of staff was females, and about half of the staff had advanced degrees.

Decision-Making Process

The decision process at this school was clear. Financial decisions were made by the principle. On other issues, such as scheduling, open houses and conferences, and other special events, teachers had input in the process. In most cases, the majority votes decided the final outcome of the decision. The principal expected that teachers keep her informed of any changes or events that took place throughout the school and the day.

Student Population

This elementary school had a diverse student body. It had a total of 376 students, 181 females and 192 males. Of the 376 students, 187 were Blacks, 132 were Asians, 24 were Hispanics, and 33 were Whites. There were two four-year old kindergarten classes, four five-year old kindergarten classes, three first grades, four second grades, four third grades, two fourth grades, and two fifth grades. About 88% of the students at this school received free or reduced lunch. This school was one of the schools in this urban district that had fewer students received free or reduced lunch.

The graph below displayed the breakdown of this school's student population by racial make-up. About half of the student was African Americans, two thirds of the other half was Asians, and about a third was Hispanics and Caucasians.

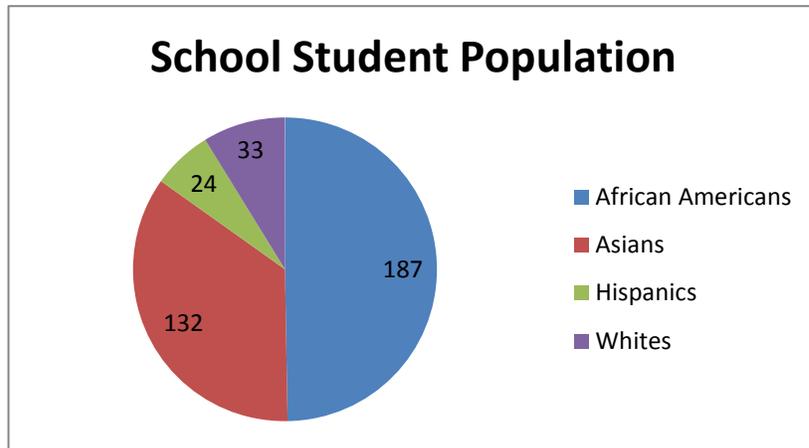


Figure 1 School Student Population

Of the 376 students, 98 students in K-5 grades received ESL services, and 56 students receive Special Education Services. The regular students received a vigorous education. The graph below represented the number of students in different servicing programs.

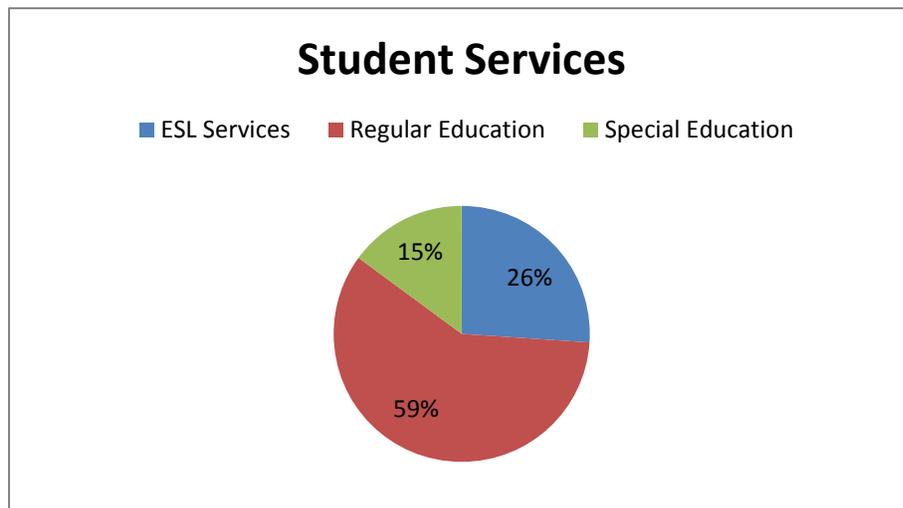


Figure 2 Student Services

I co-taught with a teacher partner, the Special Education teacher, and a Special Education paraprofessional. There are diverse 30 students in the class: 11 are ELLs, 10 students with disability (speech, cognitive delay, and other health impairments), and 9 are regular education students. The ELLs received ESL related services on Tuesdays and Thursday for 30 minutes. The students with disability spend 40 minutes in the Special Education classroom on a daily basis. They joined the class the rest of the day, Mondays through Fridays, with support from the Special Education teacher and the paraprofessional.

The group of students I worked with for this study was from my classroom. This group was made of nine students and from the low or at-risk reading group. They were five and six years-old kindergarteners and racially diverse. There were five Asians, one White, one Hispanic and two Blacks. Coming to this school in four years-old kindergarten class was their first schooling experience. All the students in this group received free lunch. With the exception of one White student, the rest of students did not speak Standard English. Five students spoke Hmong, one student spoke Spanish, and two students spoke African American vernacular. The five Asians were language learners and had limited English skills. They received 30 minutes of ESL services from the ESL teacher on Tuesdays and Thursdays. The other four students, non-Asian, were struggling readers. They received extra reading support from me on a daily basis.

All the students were required to take district-mandated reading assessment, Making Academic Progress (MAP), three times per each school year. The first assessment took place in September, followed by the second in January, and the third in May. The students took the latest district-mandated assessment MAP in January. The students were assessed on phonological awareness, phonics, word structure, alphabetic knowledge, and comprehension. All of the students in this study group scored either basic or minimum. Students needed to score a

minimum of 147 to be considered proficient. On the ACCESS (WIDA, 2011) test the ESL teachers administered at the beginning of the school year, all five language learners scored level one on a six point scale in speaking and listening domains.

The table below showed the latest district-mandated MAP assessment scores for this particular group of students. These students scored either minimum or basic.

Table 1

Combined Student MAP Reading Scores

Student Name	Winter MAP Reading Scores	Score Rank
Student 1	142	Basic
Student 2	144	Basic
Student 3	134	Minimum
Student 4	139	Minimum
Student 5	145	Basic
Student 6	142	Basic
Student 7	142	Basic
Student 8	143	Basic
Student 9	142	Basic

Under this urban school district's Comprehensive Learning Plan (CLP), the reading format for each day consisted of whole group, small group, and whole group instruction. There was a specific time set aside for reading, and reading intervention took place on Tuesdays and Thursdays. Reading intervention started from 8:10 and ended at 8:40 am. During the intervention, I focused on phoneme segmentation, letter name fluency, sight word, and reading fluency. The reading block schedule started from 8:40 to 10:10, Mondays through Fridays. I used level readers, worked on letter name fluency, phonics, sight words, phoneme segmentation, reading fluency, vocabulary development and comprehension strategies.

Table 2

Daily Reading Schedule

Daily Reading Schedule	
Monday	<p>Reading Block:</p> <p>8:40 – 10:10 Reading Block</p> <p>-Whole group: phonemic awareness, letter name and sound, high frequency words, oral vocabulary, read aloud</p> <p>-small group: guided reading, individual reading, comprehension strategies, problem solving skills</p>
Tuesday	<p>8:10 – 8:40 Intervention Period</p> <p>8:40 – 10:10 Reading Block</p> <p>-Whole group: phonemic awareness, letter name and sound, high frequency words, oral vocabulary, read aloud</p> <p>-small group: guided reading, individual reading, comprehension strategies, problem solving skills</p>
Wednesday	<p>8:40 – 10:10 Reading Block</p> <p>-Whole group: phonemic awareness, letter name and sound, high frequency words, oral vocabulary, read aloud</p> <p>-small group: guided reading, individual reading, comprehension strategies, problem solving skills</p>
Thursday	<p>8:10 – 8:40 Intervention Period</p> <p>8:40 – 10:10 Reading Block</p> <p>-Whole group: phonemic awareness, letter name and sound, high frequency words, oral vocabulary, read aloud</p> <p>-small group: guided reading, individual reading, comprehension strategies, problem solving skills</p>
Friday	<p>8:40 – 10:10 Reading Block</p> <p>-Whole group: phonemic awareness, letter name and sound, high frequency words, oral vocabulary, read aloud</p> <p>-small group: guided reading, individual reading, comprehension strategies, problem solving skills</p>

Summary of Best Practice

As vocabulary is vital to students' success in school, one of the vocabulary development strategies is using visuals to support vocabulary development. Using visuals to support vocabulary development can help facilitate urban students' vocabulary development. When using this strategy, teachers can use visuals, such as realia, pictures, photographs, and media to illustrate the meaning of the vocabulary. Visuals also contribute to building prior knowledge. Verbalizing vocabulary without visual support is not always conducive to and supportive of students' vocabulary retention. Supporting vocabulary development using visuals is a "critical early intervention for students at risk for failure" (Kamps, Abbott, Greenwood, Arreaga-Mayer, Wills, Longstaff, Culpepper & Walton, p.166, 2007). Teachers can begin to intensify their effort in order to give better support and "catch up" students on missed concepts, including vocabulary (Kamps et al., 2007). In sessions where visuals were used, distraction was limited because both the aural and visual processes were being engaged (Lin et al. 2006) and make "learning ... come[s] alive" (Colombo & Fontaine, 2009). When students were engaged visually and orally, they were motivated to learn, made more gains, and retained more vocabulary. According to the above mentioned research, when teachers use visuals, combined with relevant literacy skills, such comprehension strategies, phonics, and reading strategies as a form of early intervention, urban students made gains and moved toward proficiency.

Overview of Project

The research by Cronin and Myers (1997) as well as Rakes, Rakes and Smith (1995) indicated that when instruction was presented visually in conjunction with verbal delivery, learners were able to process the information at a deeper level and retain it in the long-term

memory. Furthermore, their research suggested that if one learning module (visual or associative) was being used, the other module (verbal or referential) was also being activated simultaneously. Learners use visuals to make connections to previously learned concepts. Lin, Chen, and Dwyer (2006) also showed that when information was being presented visually, learners would likely learn using both visual and verbal processing systems; however, when information was only presented verbally, the information would not activate the visually learning processing system. Academic conceptual retention would be minimal. Additionally, visually presented information would be learned permanently and easily recalled when the learners need the information to complete future tasks.

The purpose of my study was to use visuals to support vocabulary development in urban students. I believed I could support my students' vocabulary development within the reading content area by using visuals to support terminology in order to build their language knowledge. The research required access to data, participants, or other resources necessary to conduct this research.

Over the course of four weeks, students participated in weekly vocabulary pre- and post-tests, focusing on the vocabulary for that week and vocabulary for the following week. A chart was used for recording weekly vocabulary. During these first four weeks I followed the school district's standard reading curriculum, *Journeys* (Baumann, Chard, Cooks, Cooper, Gersten, Lipson, & Vogt, 2011). The reading curriculum included decodable readers, leveled readers, phonemic awareness and phonics lessons, texts of various genres and specific vocabulary words for each lesson. Each week's reading lesson was designed to follow a specific format. For example, on Monday students would be introduced to a list of vocabulary and a rich text, then engage in a regular lesson. On Tuesday and Wednesday they would focus on vocabulary

development strategies and reading connected text, with embedded phonics lessons such as classifying words found in the main selection or applying phonics knowledge to unknown words in text. On Thursday students would receive another explicit phonics lesson along with a comprehension lesson in the form of a graphic organizer. On Friday, students took a written comprehension assessment based on the main text selection of the week.

During the second four weeks I strengthened each of the prescribed lessons with the use of more visuals. Students were asked to identify, classify and match visuals to words for the week. Other visuals would include, but not be exclusive to, video clips, realia, photographs, illustrations and diagrams. My goal was to create lessons that embed visuals to support vocabulary development of both oral and written vocabulary of the week. I believed using visuals with this format will help facilitate learning. Over the course of these last four weeks, students would again participate in weekly vocabulary pre- and post-tests, focusing on the vocabulary for that week. A chart was used for recording weekly vocabulary results.

Data Collection

I collected data on a weekly basis. Students took the overall pretest using the sight word list form QRI-V (Coldwell & Leslie, 2011) at the beginning of the study and the posttest at the end of the study. The purpose of the overall pre and posttests were to determine if the students would make gains in sight words based on the fact that, by exposing and making vocabulary learning explicit, students would be able to make words and word associations from other words when they know some words well (Irwin, 2007). On a weekly basis, students took the pretests and posttests on Fridays. They took the posttest of the vocabulary of the week, followed by the pretest of vocabulary of the following week. I used the following criteria to determine if students were successful: 1) In your own words, tell me what the word means, 2) Use the word in

a sentence for me. Students must be able to complete these two tasks in order to be considered successful.

Conclusion

Teaching urban students presents a special kind of challenge. They are not only learning Standard English, but they are also learning academic contents. These two strands are intertwined and bound together tightly, and must be supported simultaneously. One way teachers can target these two strands altogether is by incorporating visuals in their instruction. Cronin and Myers (1997) stated that when more than one sensory mode was being utilized during instruction, academic content and vocabulary learning become permanent. Given this information, it is imperative that students experience learning visually, verbally, and aurally. When they are using multiple senses to internalize concepts, the chances of retention is greater. By giving urban students the necessary reading repertoire, including vocabulary knowledge, they can start moving toward proficiency.

This chapter covered the broad context for this action research study including the school, programming, student population, student languages and academic data and best practice research. The next chapter will focus on relevant research that supports my action research topic: the effects of using visuals to support vocabulary development in urban students.

CHAPTER TWO

Introduction

Reading is a complex and multi-faceted process that links many literacy building skills together (Fiene & McMahon, 2007; Irwin, 2007). It is also an interactive and dialogistic process that requires students to be actively involved (Freeman & Freeman, 2001; Greenwood & Flannigan, 2007; Neufeld, 2005). Student must also be able to make text meaningful or “construct a mental picture or representation of the textual information and its interpretations” (Van den Broek & Kremer, 2000, p. 1). In order to master reading skills, students must be explicitly taught and skilled in phonemic awareness, phonics, fluency, vocabulary and comprehension (Rightmeyer, McIntyre & Petrosko, 2006).

This set of skills is vital to our students’ survival in this technological, infomercial, and informational age. Many of our diverse students are graduating from school without the necessary skills to seek employment, complete daily chores, or be informed consumers. Lovett, De Palma, Frijters, Steinbach, Temple, Benson and Lacerenza (2009) stated that urban students have the lowest achievement scores and the highest drop-out rates, while they experience the most level of poverty. Therefore, it is vitally important that today’s students be literate.

This chapter will address research relevant to my action research topic: the effects of using visuals to support vocabulary development in urban students. Four specific areas of study will be covered; 1) phonics acquisition, 2) vocabulary development, 3) reading strategies, and 4) vocabulary development through the use of visuals.

Phonics Acquisition

Phonics is defined as the explicit teaching the relationship between letter-sound correspondences, spelling and word patterns, and letter sounds (Connelly, Johnston & Thompson, 2001). Research has shown that students who were instructed in phonics became faster and better readers and usually outperformed their peers on reading tasks (Connelly, Johnston & Thompson, 2001; Beverly, Giles & Buck, 2009). Therefore, it is important that any reading program include phonics as a component of reading elements.

Beverly, Giles and Buck (2009) investigated reading gains using a combination of phonics and decodable texts as a form of intervention for first graders. In this investigation, the authors divided the students into three groups to see what role phonics plays in the reading gains of at-risk first graders. The first group is called the Text Group. The authors used phonics and decodable texts as a method to intervene reading difficulty for this group. The second group, the Phonics Group, the authors only used phonics as a method of reading intervention. The third group, the Literature Group, the authors used read aloud reading strategy as a method of reading intervention.

The sample consisted of 32 first graders in a southern public school district. There were 14 girls and 18 boys: 15 African Americans and 17 Whites. Fourteen students fell in the at-risk category, 11 boys and three girls. Parents or legal guardians completed an at-risk survey for these students. The at-risk factors included repeating a grade, having speech impairment, or having significant birth history.

Due to the small amount of participants, at-risk students were assigned to the three groups randomly; each group consisted of at least 10 at-risk readers. A statistical model was

used to confirm there was no significant reading performance for each of the groups at the beginning of the study.

After selecting the students for the study, the pretest assessment window took place in January. The posttest assessment window took place in April. Two reading tests, the Gray Oral Reading Test, 4th Ed. (GORT-4) and Preventing Academic Failure Test (PAF), were used in this study. To prevent subjectivity, the examiners did not have access to the students' background information.

GORT-4 and PAF tests were used for the pre and post-test reading assessments. Students were randomly assigned to either Forms A or B. The examiners followed the administered protocols in the handbook. Rate of fluency, accuracy, and comprehension scores were totaled to get the overall scores for both pre and post-test assessments for each student. Part of the assessment was timed. For reliability purposes, each session was digitally record and up-loaded to a computer for further analysis.

The PAF bench mark contained 14 groups of 20 words based on word structures (i.e. CVC, CVCe, R-controlled vowels). The examiner stopped the assessment if participants mispronounced five words in a row. The total correct words were computed out of 280 points.

The study lasted eight weeks, with sessions twice a week, a total of 16 sessions. Each session lasted 30 minutes. The Text and Phonics groups received ten minutes of systematic phonics instruction. Then the Text group was instructed to read the PAF decodable books for the remainder 20 minutes. After 10 minutes of phonics instruction, the Phonics group joined the Literature group. During this time, the teachers read a text aloud to the Phonics and Literature students. The books were selected from the Yonkers Public School 2004 Summer School

Reading Lists. As a precautionary measure, all books that might further promote phonics and reading skills for the Literature and Phonics groups were pulled off the shelf for the duration of the study.

Beverly et al. used PAF and GORT-4 to measure the results for the posttest assessments. After the posttest assessment was administered and computed, the results from the study showed an increase for all the three groups; however, the Phonics group made the least gains overall. The Phonics Group did not receive any extra reading assistance. The Literature Group showed the most gains in fluency and made most gains in comprehension. The Text Group made minimal gains in reading comprehensions. Therefore, it could be assumed that reading aloud to students could contribute to reading gains. It would be important to realize that phonics and decodable text were only pieces of a puzzle in the complexity of reading skills. Rich texts, along with decodable booklets, and phonics should be used in conjunction to contribute to the overall student reading gains.

In the previous study, Beverly, Giles and Buck (2009) looked at the effect of using phonics to increase reading skills for at-risk first graders, as compared to using decodable texts and literature. The result indicated all the strategies should be used when working with at-risk students. In the following study, Connelly, Johnston and Thompson compared the effect of using phonics and non-phonics strategies to teach reading skills.

Connelly, Johnston and Thompson (2001) stated that students who were taught phonics could read better and developed better comprehension skills in their research, "The Effect of Phonics Instruction on The Reading Comprehension of Beginning Readers." They looked into

the concept of using phonics to increase reading skills and comprehension by comparing a phonics-taught group of beginning readers to a non-phonics group.

Four schools participated in this study. Two schools were from Tayside, Scotland, and two schools from Wellington District in New Zealand. The students from the Tayside schools were instructed using phonics method, while the students from Wellington district were taught using textbook method. The Scottish Educational System has always believed in phonics instruction. The system believed that, “phonics ... and the alphabetic principle would serve as basis for future independent reading” (p. 628). On the other hand, The New Zealander Educational System believed that “emphasis on obtaining meaning from print ... on the story and the book” (p. 433). Phonics was implicitly taught based on the idea that students should know the name of the letters. Teachers did not model “sounding out or blending” (p. 435). Rather students were expected to use the initial letter names and context clues to figure out the words. The system used the Ready to Read reading series, which was published by the New Zealand Department of Education.

Connelly et al. used a number of assessments to determine and contrast the results of these two groups. These assessments were the Neale Analysis of Reading Ability – Revised, Yopp-Singer Phoneme Segmentation Test (measures phonological awareness), Comprehension Questions; they were taken from the GINN 360 reading series. The results from these assessments were used to determine the outcomes of the study. Each of these assessments was administered by the authors.

The sample of students who participated in the study were matched using vocabulary word knowledge, aural skills to correlate comprehension skills, socio-economic status, grade

level, and age. A total of 53 phonics-taught and 43 non-phonics students were selected for the study initially. After further analysis, the top and bottom sub-groups of the two groups were eliminated. It was assumed that the top sub-group would likely to get extra help at home, while the bottom sub-group would likely to get reading remedy from the schools. The final total of the students participating in the study were 22 for the Phonics Group and 26 for the Non-phonics group. Of the Phonics Group, there were nine females and 13 males, ages ranged between six and seven years. The non-phonics group consisted of 10 males and 16 females, with an age range between six and seven years.

The authors followed a pre-set procedure. One of the authors administered all the assessments to the students. The reading comprehension was done using the Neale Analysis of Reading Ability – Revised test. This test was used by both the Scottish and New Zealand educators. Students read and answered questions regarding the text. The phonological awareness knowledge was measured by using the Yopp-Singer Phoneme Segmentation Test. To measure the student reading reaction time, a set of 60 words from the GINN 360 word lists was administered to the students. For the non-words sound knowledge, students were tested using 24 non-words. Connelly et al. replaced one letter in the real words to make non-words. All the non-words were written on index cards in lower case letters.

After the results from the assessments were analyzed, the authors concluded that there were several score differences between the phonics and non-phonics groups. For word accuracy, there was no significant difference between the two groups. The Phonics Group scored slightly higher on the comprehension test. The authors believed that since the Phonics Group was reading at a slower pace and took their time decoding the words, they retained more of the meaning and had longer exposure to the text. On the other hand, the Non-phonics group read

faster than the phonics group. And those that read faster were also able to comprehend the text better. When it came to phonological awareness, students in the phonics group had higher scores as compared to the Non-phonics group. In the non-words section, the phonics students also scored higher scores than that of the non-phonics group. The ability to read non-words was closely correlated to the Neale Reading test.

The results from the study indicated that the Phonics Group scored higher in the following areas: comprehension, non-words, letter-sound correspondences, and phonemic awareness. For the non-phonics group, they scored higher on reading rate and reading texts. Overall, the results from this study seemed to suggest that phonics taught students tend do better at reading.

These previous studies focused on phonics as a reading strategy. The studies demonstrated that phonics can be useful when using it as a part of a reading intervention strategy; however, it should not be used solely as a reading strategy. It is not an effective method that focuses on the development of comprehension, vocabulary, and reading strategies. The following research will center on vocabulary development.

Vocabulary Development

Like phonics, vocabulary plays a crucial role in reading acquisition. Vocabulary is the single most important factor that influences reading gains in students (Greenwood & Flanigan, 2007). Carlo, August, McLaughlin, Snow, Dressler, Lippman, Lively, and White (2004) asserted that students' vocabulary could increase by as many as 300 words annually if teachers explicitly teach vocabulary in meaningful ways. The authors further argued that students also must encounter words at least eight times to yield results. In light of this research, students must

have the necessary vocabulary to build and activate knowledge (Van den Broek & Kremer, 2000) and support their comprehension (Irwin, 2007). When teaching vocabulary, teachers must teach it in rich contexts where students have multiple opportunities to practice, use, and apply the vocabulary they are learning. Furthermore, students could build knowledge and word association to other words when they know some words well (Irwin, 2007). Therefore, teachers must carefully choose and integrate ways in which to teach vocabulary to develop students' lexicon in order to fully support their comprehension.

Columbo and Fontaine (2009) collaborated to look at reading comprehension using the concept of embedding academic vocabulary in conversations to increase vocabulary development in language learners in the article titled, "*Building Vocabulary and Fostering Comprehension Strategies for English Language Learners: The Power of Academic Conversations in Social Studies.*" They specifically focused on three aspects of reading development. These focused areas were academic vocabulary development, text connections (to self and to other texts) and making inferences. Columbo and Fontaine observed audio and video-taped the sessions, collected students' journals and letters to Ruby Bridges, and monitored project Wiki to use as evidence of reading gains during this study.

Columbo and Fontaine chose seven teachers (tutors) who were participants in the *Methods of Teaching American History* class, a requirement for elementary education certification being offered at a local university. They met with the tutors and two participating schools to select students. Fourteen intermediate or above language proficient fourth grade language learners were selected for this study. The students' language proficiency was based on state tests, Massachusetts English Proficiency Assessment (MEPA) and Massachusetts Language Assessment-Oral (MELA-O). Each tutor worked with two students.

Tutors, students, and their parents were informed and signed consent forms for this study; the authors did not receive consent forms for two participants. These students were still assigned to work with a tutor, but their data was not collected for this study.

A sample of 14 intermediate or above language proficient fourth grade language students were selected for this study. The students' language proficiency was based on state tests, Massachusetts English Proficiency Assessment (MEPA) and Massachusetts Language Assessment-Oral (MELA-O).

Columbo and Fontaine chose the following procedures to implement this study. The first feature, several quality texts were chosen for the study: *Remember: A Journey to School Integration* (Morris, 2004), *The Story of Ruby Bridges* (Coles, 1995), and *Stealing Home: The Story of Jackie Robinson* (Denenberg, 1990). Tutors used these texts to help the students to make connections to other texts and to self.

The second feature consisted of tutor preparation. The tutors watched and discussed in one two and a half hour class focusing on the methods of teaching the history of segregation in the United States. They also watched videos, read, discussed the following events and literatures about segregation: two court rulings, Martin Luther King Jr.'s speech (King, 1963), *Ruby Bridges* (Hopkins, 1998), *Separate but Equal* (Swanson, 1991) and *Remember: A Journey to School Integration* (Morrison, 2004) and Coles (1995). The tutors also discussed how these various elements help the students to develop deep understanding and make connections to these elements.

The third feature included a session on various vocabulary development strategies. These strategies comprised of viewing the words in the texts, using word cards to learn the new

vocabulary, and using the vocabulary in academic conversations and in contexts. Vocabulary words rings were also used. One of the rings was for the students and the other one was for the tutors. Tutors were instructed on how to help students on how to infer using literatures.

Tutors and students met for eight sessions from September through December of 2008. The students started with pictorial viewing of *Remember* to teach inference, questioning, and text connections strategies. At the end of each session, students were required to write a response in their journal based on the lesson. With the help of technical support staff, a web-based program, Wiki, was created as an activity extension between the students, with other schools, other students, and the tutors; however, this program did not prove to be useful due to technical difficulty and lack of time on the part of the technical staff.

Colombo, Fontaine and their assistant reviewed the collected data, and categorized the data into several categories. A total of 42 hours of audio recordings took place and transcribed. The audio recordings were up-loaded to a software program, NVivo 8. The results indicated that students incorporated the following as part of their reading repertoire: prediction, inference, social justice, questioning text, summarizing, text-to-self, text-to-text, text-to-world, and vocabulary. The authors also analyzed and coded the tutors' instructional language in the following categories: promotion of strategy, questioning, and vocabulary scaffolding.

The results from the analysis of the data showed that language learners made academic gains when teachers created contexts that allow for academic conversations, vocabulary usage, and application of comprehension strategies. Student gains were evident. In this study, students were able to use academic vocabulary for authentic purposes. For example, when student made connections text-to-texts and text-to-self, these processes helped students to activate prior

knowledge. Students used academic vocabulary and cemented these words into their lexical bank.

In the previous study, the authors looked at using academic conversations with language learners to learn and retain vocabulary. In the following study, the authors explored the concept of developing vocabulary development in students by teaching them directly to the students.

Carlo, August, McLaughlin, Snow, Dressler, Lippman, Lively and White (2004) investigated the concept of instructing academic vocabulary to language learners using a combination of direct word instruction and instruction of word-learning strategies. As indicated in their article, "*Closing the Gap: Addressing the Vocabulary Needs of English Language Learners in Bilingual and Mainstream Classrooms*," they used several guiding questions, such as which words and how often to direct this study. The authors used the Peabody Picture Vocabulary Test Revised (PPVT-R) to assess vocabulary content of students. This assessment measured the following vocabulary categories: mastery of words (words that were successfully learned), word association (words that share similar meanings), polysemy (words with multiple meanings), cloze exercise (words that fit into semantics in sentences) and morphology (base or roots of words).

The sample of students consisted of 254 bilingual students, English Language Learners (ELLs) and native speaking or English only students (EOs). These fifth grade students were from four different schools in California, Virginia, and Massachusetts. The majority of language speakers were of Mexican, Porto Rican, Dominican and the Caribbean and Central American ancestry. One hundred forty-two were ELLs, 112 were EOs. Ninety-four of the ELLs and 75 of

EOs were assigned to the intervention treatment, while the rest of the ELLs and EOs were assigned to the comparison group. Sixteen teachers participated in the study.

The authors randomly assigned students and study sites to either the treatment or comparison program. As a result, 10 classes were assigned to treatment program, while six classes were assigned to the comparison program. The comparison groups did not receive any extra or special treatment, except what the school curriculum dictated; however, the comparison group teachers did get the same professional development training on vocabulary instruction. Bilingual research assistants tested most of the students in the treatment program in the fall to get a baseline. Due to conflicting of schedules, the assistants did not test all the students in the treatment program.

This intervention lasted 15 weeks with approximately 30-45 minute sessions for four out of the five school days. The format of the intervention of the study had the following segments. On Mondays, ELLs were given materials to review in Spanish. On Tuesdays, the whole class worked on word meanings, activities targeting these words and texts. On Wednesdays, students were grouped heterogeneously to work on cloze activities. The groups used words in contexts. On Thursdays, students worked on developing depth of word knowledge. On Fridays, students tested their knowledge by analyzing of root words. Teachers also used detailed lessons and guides, transparencies, work sheets and assigned homework.

The results from this study concluded that students made gains from fall to spring. The treatment group made more gains as compared to the comparison group. Beside the fact that the students in the treatment program were not only increasing in their vocabulary acquisition, but they also improved in comprehension levels. Although the students did make gains, the gains in

comprehension area were less than that of the other aspects of the study. Secondly, direct instruction of vocabulary was proven to be beneficial to both ELLs and EOs in the intervention program. This led the conclusion that teachers would need to teach and use vocabulary in meaningful contexts. Teachers must also design activities that allow students to make inferences about word meanings and use them for authentic purposes.

In the previous study, the authors looked at using direct word instruction to teach vocabulary. In the following study, the authors studied the effect of vocabulary development through the use of repeated reading.

Maynard, Pullen and Coyne (2010) carried out a research with the purpose of looking at the effect of teaching vocabulary through repeated shared reading of texts to first graders. In their article, *“Teaching Vocabulary to First-Grade Students through Repeated Shared Storybook Reading: A Comparison of Rich and Basic Instruction to Incidental Exposure,”* they compared rich instruction to basic instruction, and use incidental exposure as a comparison program to target vocabulary gains in first graders.

Three schools in Virginia participated in this study. Each school was assigned to an instruction model. The students’ socioeconomic status was based on free and reduced lunch statistics. The demographics of the students were made up of African Americans, Whites, Hispanics and Asians.

The sample of students comprised of 224 first graders from 12 classrooms. Ninety-seven students were assigned to the rich instruction model. Fifty-five students were assigned to the basic instruction model, and a total of 72 students were assigned to the incidental exposure model.

A baseline data of student knowledge was collected one week prior to the start of the study. The first post-test was administered between three and five days after a text was read to the students. The delayed post-test was administered three weeks after the first post-test. The purpose was to see if students continue to retain the target words. All students were individually tested by the research team. The team used two norm-reference standardized tests to measure students' receptive and expressive vocabulary. They used the Peabody Picture vocabulary Test-III (PPVT-III) to measure receptive vocabulary, while the Expressive Vocabulary Test-2 (EVT-2) was used to measure students' expressive knowledge vocabulary. For the receptive vocabulary knowledge, the administrator read the target words and students pointed to the words. For the expressive test, students verbalized the words, its meaning, and use the target words in a context in order to demonstrate knowledge.

The authors selected *Goldilocks and the Three Bears* to read and reread to all students in the study. After reading the book, 12 words were selected as target words. Of the 12 words, teachers taught six words to the students and six words remain untaught; however, the contextual clues gave enough information that helped students figuring out the meaning of the untaught words. The story has been modified in order for the target words to appear only once during each reading. For both rich and basic instructional models, three words were taught after the first reading. All the six taught words were reviewed during the third reading. Each session lasted between 20-30 minutes three times per week.

For the rich model, it was designed to allow students to use the words in contexts. Students were also active participants during the readings of the text. They were asked to raise their hands when they hear the word. Teachers read the sentences that contain the words again for the students. Then the teachers prompted students to pronounce the words and provided a

simplified version of the definition. This method reinforced phonological awareness of the words for the students.

After each reading, teachers provided activities for the students to use the words in different contexts. Activities, such as using and identifying words in sentences and using more than one words in sentences, were used and incorporated in the class. The teacher also asked open-ended questions to promote and extend response to demonstrate full understanding of the target words. This part of the lesson usually lasted between 10-15 minutes.

In the basic model, teachers read the story and provided simplified version of the definition for the students. Unlike the rich mode, students did not receive the extend-activities. Teachers carefully reviewed these target words at scheduled times. Activities progressed from easy to harder tasks. Activities such as using pictures, gestures, examples and non-examples were used with the students. Teachers also modeled correct usage of words for the students and allowed students the opportunities to practice the taught words.

In the incidental exposure model, teachers read the story to the students three times. The students were not explicitly taught or gave definitions of the words. Through conversation-styled discussions, the teacher asked questions, and students responded to them in unison. This group also received the same amount of instructional time as the rich and the basic models.

A series of ANOV tests were performed to measure gains: expressive word knowledge, receptive words, and word usage in contexts. The results from the study showed that the students in both the rich and basic models outperformed the incidental group in the post and delayed post-tests. When further statistical analysis was made, the effect size indicated that the rich and basic model was larger than that of the incidental model.

Further analysis of the three focused areas, expressive, receptive and context knowledge, demonstrated that the retention rate and growth of vocabulary in both rich and basic models were stronger and more effective when compared to the incidental exposure model.

Another series of analysis was evaluated and measured gains of the untaught words. This analysis focused on the following untaught vocabulary word areas: expressive, receptive, and contextual. The result showed that students in the rich and basic instructional models retained the untaught vocabulary words even after the delayed post-test. Furthermore, the study also indicated that the rich and basic models were more effective when teaching vocabulary words to students.

Teachers who participated in this study also completed a survey. The teachers responded positively toward using the rich instructional model in their classrooms. They stated that they would continue to use the rich model in their classroom. The teachers who participated in the incidental model felt that they would need to be explicit in order for their students to gain and retain vocabulary.

The previous articles focused on vocabulary development, while the next section looks at reading strategies.

Reading Strategies

Current research states that both phonics and vocabulary play a fundamental role in reading acquisition; however, students need to be exposed to a set of reading strategies to combine with these two elements in order for students to be well versed in reading. This section addresses different reading strategies to help struggling readers.

Denton, Anthony, Parker and Hasbrouck (2004) investigated the, “*Effects of Two Tutoring Programs on the English Reading Development of Spanish-English Bilingual Students*”. The authors speculated that monolingual students have benefitted from extra reading support. They hypothesized that the same concept could be applied to language learners. They chose two reading programs, Read Well and an adapted version of Read Naturally for this study. They compared the reading growth of language learners to non-tutored language learners. Students were randomly assigned to either Read Well or Read Naturally programs.

A sample of 99 elementary Spanish bilingual students participated in this study. They were chosen based on following criteria: must be Spanish language learners, recommended by their teachers, must be English proficient based on standardized assessment, and must not be proficient in reading Spanish. For students who did not take the standardized assessment, teachers’ recommendations were taken into account.

Of the 99 Hispanic students, 22 were first graders, 37 were third graders, 28 were fourth graders, and six were fifth graders. The age ranged from seven to twelve. Six students dropped from the study because one of the teachers used Read Naturally materials in the classroom. Of the remaining students, 45 were females and 48 were males. Seventeen classrooms from five different schools participated in the study. A wide range of age and grade levels were included in this research because the results would be used as the precursor to future reading program to help language learners.

Students were further assigned to two subgroups based on their performance on the Woodcock Reading Mastery Tests – Revised. Students who scored proficient moved the proficient decoding group, while students who did not score proficient were moved to the

emergent decoding group. The researchers matched students into groups based on their reading scores and classroom location.

Of the 93 students who stayed for the study, 19 were in the Read Well tutored group and 14 were in the comparison group. There were 32 students in the Read Naturally program and 28 were in the comparison group. The uneven numbers in the programs were due to student mobility.

Students' Spanish and English oral skills were also assessed using Language Assessment Scales – Oral (LAS-O). The scoring scales ranged of one to five, one being the lowest score. Writing skills were also assessed using LAS Reading/Writing, with a score range of one to three, with one being the lowest score. The language instruction of the students varied; these scores were also used as part of the assessment.

These five participating schools were in one of the school districts in Texas. It had a student population of 13, 664, with a mixed student body of African Americans, Hispanics, White, Asian/Pacific Islander, and Native Americans. Of this total, 56.2 % received reduced or free lunch. About 9 % have limited English skills, and 7.3 % were enrolled in English as a Second Language programs.

Nine teachers were interviewed to get a clearer picture of student needs. The teachers were from different grade levels: three second grade, three third grade, two fourth grade, and one fifth grade teachers. Most of the teachers indicated that they did not teach phonics in either language. Those that taught phonics, they taught it minimally. All teachers stated that vocabulary instruction was an important part of their curriculum. They used the following model to teach

vocabulary: give out word lists, pre-teach vocabulary, and use other strategies to teach vocabulary in their classrooms.

To measure the pre and post test results, Woodcock Reading Mastery Tests-Revised was used. Students were assessed in the following areas: word identification, phonemic decoding and comprehension. Due to many unforeseen circumstances, only the norm-referenced pre and posttest scores were presented.

Twenty-three undergraduate university students/tutors were trained and met with participating students three times per week. Each session lasted for about 40 minutes. An official record of twenty-two sessions took place during this research.

The first reading program, Read Well, consisted of the following components: explicit phonics instruction with decodable readers, contextualized vocabulary and comprehension instructions. The process of the Read Well program was followed; a) Tutor-directed activity, b) guided practice and, c) independent practice with discussion and question questions. An accompanied text allowed extra practice opportunities for the students.

The teacher's manual for this program had explicit harder vocabulary words for the teachers to introduce content vocabulary to the students. Each reading unit had a letters and/or combination of letters. There were also progress monitored materials for the tutors to use. On the units that were being taught both in English and Spanish, tutors omitted the one of the unit in one of the languages to avoid repetition. This program allowed repetitions to reinforce learned concepts. When reading, students received immediate feedback from the tutors.

The second program, Read Naturally, had the following components: repeated readings of texts, vocabulary and comprehension instruction, goal-setting and progress monitoring. In this

program, students practiced reading expository texts. This series consisted of first through eighth grade reading materials. Comprehension was instructed through the use of making predictions, writing and retelling, and multiple-choice questions. Audio tapes were also used for the students to read along. Students monitored their growth by graphing their reading rate per minute of pre- and post- tests on a graph.

Modified activities of the program included the discussion of the vocabulary, decoding, and comprehension skills. Sight words on flash cards were also used to support learning. Students followed a consistent routine. The routine was as followed: a) student selected leveled text, b) student read independently, c) tutor worked on pre-reading activities with students, d) student graphed reading level, e) student practiced reading with or without audio tape, f) student completed multiple choices questions, g) tutor timed assessed student's reading and, h) tutor asked oral comprehension and or check written comprehension work.

The research question compared the effect of two reading programs, Read Well and Read Naturally, on Spanish elementary bilingual students. The students in the Read Naturally program comparison group made fewer gains in word identification (+.21), word attack (+2.35) and comprehension (+1.57); however, students in the tutored Read Well group made gains in all areas. Students made gains in word identification (+4.06), word attack (+5.16), and comprehension (+1.58). Students in the Read Well program also showed gains in all the considered areas and outperformed their non-tutored counterparts during the research period.

Students in the Read Naturally comparison group seemed to make more gains when compared to students in the Read Well comparison group. The comparison group made (+1.75) gains in word identification, (+.97) in word attack and (+.71) in comprehension. Comparatively,

the tutored group gained (+1.12) in word identification, (-.22) in word attack, and +2.13 in comprehension. The Read Naturally group made negative gains in word attack.

In the Read Well program, phonics was part of the curriculum. The results indicated that students benefitted from phonics instruction. It suggested phonics should be included in any literacy programs for transitional language program or for bilingual students. Since the Read Naturally program was multi-faceted, the authors assumed students would make a lot of gains in the area of comprehension; however, the results from the study indicated that students in the study gained minimally. The authors speculated that with a longer time period of tutoring, students would make gains when compared to their monolingual cohorts.

In the Read Naturally program, students had multiple opportunities to practice reading with or without audio tape and feedback from the tutors. With multiple exposures to the texts, the study results indicated that students did not make gains in their decoding ability. The results pointed toward the importance of explicit instruction when working with English language learners on phonics.

Based on the repetitive reading nature of the program, Read Naturally, the authors assumed that students would make gains in the comprehension area; however, this was not the case. Students in this program did not make substantial gains in fluency and comprehension. Under this program, students needed more explicit instruction on vocabulary development in order to increase comprehension.

In the previous research, Denton, Anthony, Parker and Hasbrouck compared two reading programs. In the following study, the authors glean the important role peers play in reading acquisition.

Calhoun, Otaiba, Cihak, King and Avalos (2007) looked at the concept how peers play important roles in reading acquisition in Spanish bilingual first grade students in their article, “*Effects of a Peer-mediated Program on Reading Skill Acquisition for Two-way Bilingual First-Grade Classroom.*” Calhoun et al. used the concept of Peer-Assisted Learning Strategies (PALS), a modified version of Classwide Peer Tutoring, to glean how this reading strategy would help students gain reading skills.

This study spanned over 20 weeks, three times a week, and each session lasted between 30-35 minutes. Each session consisted of four components: letter sound relationship, hearing the letter sound, sounding out words and story sharing. Students were grouped in twos – one with higher reading skills and one with lower skills. Each student took turns reading to the other. Students were supervised by the teacher and research assistants in order for the students to follow directions correctly.

The research took place in three Title 1 elementary schools near the border of México. The sample of the study consisted of 94 students and six Spanish/English bilingual teachers. Eighteen students dropped out of the study due to mobility. Of the remaining students, 24 were considered English language learners. In order to measure reading growth, the authors administered a reading assessment, Dynamic Indicators of Early Literacy Skills (DIBELS) to the students three times during the study. The first administration took place two weeks prior to the beginning of the study, the second took place during the winter quarter, and the third one took place in the spring term of that school year. The assessment measured students’ ability to name letters, segment words, decode nonsense words, and oral fluency. Letter naming only took place in the initial assessment. Oral fluency took place in the winter and spring assessments.

For procedural protocols, the teachers had one-day training workshop on how to conduct the PALS reading program. In addition to the one-day training, research assistants were available to answer questions and give support to the teachers. When delivering the program, teachers were required to follow detailed scripts.

To make sure teachers were consistent in delivering the program, assistants made unannounced visits to the school. They used direct observation, and a checklist was used to get the percentage of following the program closely and accurately. The number of checks was divided by the total of the checklist. The percentage of fidelity was 96.4%.

The selected students were divided into groups of twos. Each student took turn to lead the lesson. Teachers took students to visit the school library once a week as part of the program. Students used a variety of texts, fiction and non-fiction, during story sharing time.

For the comparison group, the teachers used the Houghton Mifflin reading series. Teachers also reported using reading materials from other sources as well. They did not follow the prescribed routines. They did a lot of whole group reading instruction.

Analysis from the study indicated that students in the PALS program showed increased skills in segmenting, decoding nonsense words and letter naming. Furthermore, with repeated one-way analysis variance, students who were in the PALS reading program also showed growth in oral fluency. Students were asked to respond to a survey. Each question was carefully worded to avoid no or yes answers. The result from this survey indicated that students liked using PALS to read with a partner and in small group. Teachers also took a survey. Teachers responded positively in the following areas: a) there was an increase of skills in reading fluency,

segmenting and sounding out skills in students, b) students were able to co-construct their learning with peers, and c) there was an overall improvement in students' reading skills.

There was an indication that language learning students made positive improvement in the area of reading; however, the number of the sample was limited, and the length of the study was also short. Furthermore, only Spanish bilingual students were included in this study. To get a better and more valid result, it was suggested that this kind of study should include language learners other than Spanish speakers. In future studies, an instrument that is able to measure and compare students' growth in the study to that of national level should also be implemented.

In the previous study, the authors studied the effects of using peers to promote and increase reading skills, while the following study; the authors looked at the effect of long term reading support for students with reading disability.

Lovett, De Palma, Frijters, Steinbach, Temple, Benson and Lacerenza (2008) investigated the concept of "*Reading for Reading Difficulties: A Comparison of Response to Intervention by ELL and EFL Struggling Readers.*" In this study, Lovett et al. used the reading theoretical framework to look at how to best intervene reading difficulty in English Language Learners (ELLs) and English as First Language Learners (EFLs) with reading disability. The data was collected over a period of four years with different groups of students.

Lovett et al. used two reading programs. The first program consisted of the following components: Phonological and Strategy Decoding Program, Phonological Analysis and Blending/Direct Instruction Decoding Program, and Phonological Program with Writing and Spelling Component. The program was used as the treatment program, while the Special Education Program was used as the comparison program. The second program was a reading

program designed by the schools for their special education programs. The Special Education Reading Program had the following components: decoding skills, phonological awareness, reading comprehension, spelling and writing. These components were made up of various reading programs. Each student received 150 hours of reading intervention.

Norm-reference reading assessments were used to collect the data. These assessments were: Comprehensive Tests of Phonological Processing (C-TOPP), Wide Range Achievement Test (WRAT-3), Woodcock Reading Mastery Tests-Revised (WRMT-R), Clinical Evaluation of Language Fundamentals (CELT-3), and Peabody Picture Vocabulary Test (PPVT-3). The results from the subtests were used to determine student gains.

This study took place in a large urban school district in Canada. One hundred and sixty-six ELLs and EFLs with reading disability participated in this study. Teachers referred these students to the reading program due to their under-achieving reading scores. The grade levels ranged from second to eighth. The age of the students ranged from six to 13 years. Students with other disabilities (behavioral, hearing impaired, and others) were excluded from this study. Of the 166 students, 90 students were EFLs and 76 were ELLs. Of the ELL group, many languages were identified: Portuguese, Spanish, Tagalog, Italian, Polish, Arabic, Syrian and Urdu. The students also represented a wide range of socioeconomic status and diverse cultural backgrounds.

Prior to participate in the study, teachers received a five full-day of off-site training. The training included background information, classroom observation, direct instruction, practice and discussion. Teachers watched videos, prepared lessons and materials, and practiced the program with other students. Furthermore, teachers collaborated with each other.

After the teachers referred the students to the program, parents signed the consent forms for the students to participate in the study. During the study, students worked with teachers individually. Qualified test givers progress-monitored students at 35 hours of intervention, 70 hours and 150 hours to measure reading gains.

Lovett et al. looked at the effect of a specialized reading program versus school created special education reading program for ELLs and EFLs with reading disability. Both of the randomly assigned groups received the same amount of hours of reading intervention.

The data indicated that students who received reading intervention outperformed their peers. The analysis also showed that lower language skilled students displayed most gains at the beginning of the reading intervention. They gained an average of 12 words as compared to the group with the higher language skills. They gained an average of 8 words per testing period.

While the students with lower language skilled did well with word growth, students with higher skilled level did better at comprehending passages. Furthermore, students who came into the program with higher language skills gained most in all areas of the reading intervention.

While the previous research spoke to different reading strategies, the following section will address the topic of using visuals for vocabulary development.

Vocabulary Development through the Use of Visuals

Phonics, vocabulary, and reading strategies are intertwined to form the basis of reading skills. While these are essential elements in reading, student must be given ways to learn and retain vocabulary in meaningful ways. One way of helping students to retain vocabulary is to

support them through the use of visuals. The following research addresses the issues of using visuals in instruction.

Lin, Chen, and Dwyer (2006) studied the effectiveness of using visuals to support learning in students in the article “*Effect of Static Visuals and Computer-Generated Animation in Facilitating Immediate and Delayed Achievement in EFL Classroom.*” The purpose was to measure the effectiveness of content learning in language learners by using two kinds of visuals: static visuals (SV) versus computer animated visuals (CV). The instructional material was a diagram of the heart: functions and parts. Approximately two thousand words were used to describe the functions and parts of the heart. Twenty visuals were used, with ten animated for the CA group. The content of the material was checked by medical doctors, content experts, and instructional designers to ensure validity and reliability.

Fifty-eight undergraduate English language students (9 males and 49 females) participated in this research. The students were randomly assigned to individual treatment groups, either SV or CV. Each student took the Test of English as a Foreign Language (TOFEL) before they began participation in the research to determine the baseline for student reading ability.

Both groups accessed their instructional materials via computers. Each page had a text passage, accompanied by realistically supportive static visuals. The page layouts for both groups were the same – each page title was placed on top of visuals. The CA group participants also used the same static visuals, but ten of the 20 visuals were animated.

The criteria for the outcome were as followed: drawing test, identification test, terminology test, and comprehension test. Each test section had 20 multiple-choice questions,

with the exception of the drawing test. On the day of the test, students reported to the computer lab and were assigned to either the SV or CA group. The test took approximately 90 minutes to complete. The post test took place a week after the initial test.

Analysis was performed to get the difference between the first and the delayed tests. The immediate result of the first test showed the CA scored better as compared to the SV group. The final results also indicated that the CA group outperformed the SV in all the four categories. The animated visuals supported long-term information retention. This study suggested that animation in other subjects could be used to determine if the same results can be duplicated.

The previous research focused on using static and animated visuals to help college students gain and retain vocabulary. In the following research, the authors looked at the effect of using visuals and not using visuals to support student learning.

Cronin and Myers (1997) hypothesized that the more sensory modes were being used to store mental representations; these representations would be more likely to become part of the student's learning repertoire. The authors also stated that when visuals were used during instruction, "the information in books appears to be most beneficial to poor readers and students with low-prior knowledge" (p. 49). In this study, they used interactive multimedia instruction (IMI) to see if it would impact student learning.

The instructional materials consisted of still visuals with voice over. Students were required to listen and follow directions carefully. One hundred forty college students in economics, public speaking, and marketing participated in this research. There were 49% male and 51% female students. The treatment group received 58 minutes of listening instruction with visual support. The non-treatment group received 57 minutes of listening instruction without the

visual support. Each student used the IMI program individually in a room with a computer, a video disk player, and video monitors. The test consisted of 20 oral and 10 written multiple-choice questions. Students were also required to do a self-reflection immediately after the session.

The results indicated students in the treatment group did not score any higher or better than those that were in the control group. The mean score of the treatment group was 12.46 as compared to 11.70 for the group without the visual support. The treatment group student found the material to be interesting. They preferred it to the more traditional instruction.

In the previous research the authors looked at IMI visuals to support student learning. The results indicated the effect was minimal. In the following research the author looked at using visuals to support language learners to learn vocabulary acquisition.

Akbulut (2007) theorized that multimedia annotations with visuals support learning in language learners. The author further stated that when students could easily access annotations, the learning was made easier to master. The model consisted of three groups, the Text group, Text with Pictures group, and Text with Video group. The Text group had only the annotations of the words without any visual supports. The Text with Pictures group had the annotations with still digital visuals. The Text Group with video had the annotations with video visuals. The study was conducted at a Turkish university.

Sixty-nine first year advanced language learners participated in this study. There were 22 males and 47 females. These students took the computerized TOEFL test version. Each must score at least 213 on the test to be considered for this study.

The text for the research was *Playing with Fire*, and it contained over a 1,300 words. This was an advanced reading text for college level. There were a total of 42 words that were underlined as unknown words and were highlighted in blue. When the students clicked on any one of the words, a definition, a picture, and a video appeared on the top-left side of the screen of the computer. The text contained nine pages, and student had the ability to go forward or backward. Four areas of success criteria were set as the outcomes of the study: vocabulary tests (form recognition, meaning production, and meaning recognition), comprehension, background questionnaire and semi-structured interviews.

Students were randomly assigned to one of the three groups. Prior to the test administration, a vocabulary test (meaning recognition and production) was given to the students to be compared with the result for the vocabulary posttest. On the day of the administration, students were told to read the text carefully; however, they could not do look-backs. The students could take notes. Four days after the test, students were given a post test on the vocabulary. In three weeks and unannounced, students were required to take the delayed post-test.

The result for the study demonstrated that the text groups with visual support scored better than the group without the visuals. Although all the three groups scored lower on the post-tests; however, groups with the digital and video visuals scored much higher than the control group or the group without the visual support. After all the tests were combined, the video group scored the highest of the three groups. The final results suggested that students learn and retain vocabulary when using video visual support.

In the previous research, the author speculated that students learned better with visual support as compared to students without the visual support. In the following research, the author looked at the effects of using pictures, textual glosses in E-reading study.

Shalmani (2010) looked at how the different multimedia annotations have impact on comprehension in intermediate-level Iranian English language learners. The author further asked if various annotations would affect student learning outcome differently. Three types of annotations were used in this study: textual (text only), pictorial (illustrations only), and pictorial-textual (text with visual support).

One hundred-twenty Iranian students participated in this studying. They were studying English as a Foreign Language (TEFL) at an Islamic university in Iran. Based on their proficiency scores, they were considered to be intermediate level. Prior to the start of the research, the students took a language test to make sure that they were homogenous at the beginning of the students by using an ANOVA analysis tool.

The students were randomly assigned to four groups: control, textual, pictorial, and pictorial-textual. All the subjects took the tests on computers. The textual group was given the test without any visual support. The pictorial group took the test with only pictorial annotations. The pictorial-textual group their tests with pictorial-textual annotations. The test session lasted 60 minutes.

The results indicated that the two groups that had pictorial and pictorial-textual annotations outperformed the textual (text only) only group. One speculation was that the author believed that explicitly instructing students with visuals support helped them to remember the

information longer. Thus, the information with visual support would more likely to be stored in long-term memory.

Conclusion

The above research has shown that teachers can improve and increase students' reading repertoire by explicitly teaching phonics, vocabulary development, and reading strategies. These pieces are foundational to reading acquisition. Each of these elements works as a piece of puzzle that fit together to form the basis of reading. As in my research: "Can I support my students' vocabulary development within the reading content area by using visuals to support terminology in order to build their language knowledge?" Best practice data indicates that explicit instruction in vocabulary development is beneficial to all learners. Given the important role vocabulary plays in academic success, teachers must unequivocally demonstrate different vocabulary strategies to support students in this area. One strategy is to use visuals to support vocabulary development. When students have sufficient vocabulary, they make connections to other concepts and build prior knowledge. With sufficient visual support, urban students can work toward proficiency.

This chapter has provided the basis research that drove my action research study regarding using visuals to support vocabulary development in urban students. Research addressed phonics acquisition, vocabulary development, and reading strategies have been reviewed. Chapter Three will describe the sample population, procedures, and data collection process for my study.

CHAPTER THREE

Introduction

The purpose of this action research study was to determine how using visuals can support vocabulary development in urban students. I believed I could support my students' vocabulary development within the reading content area by using visuals to support terminology in order to build their language knowledge. This action research took place over a span of eight weeks. The first four weeks took place before spring break, and the second four weeks took place after the spring break. My research decisions were based on the work done by Cronin and Myers (1997), Rakes, Rakes and Smith (1995), and Lin, Chen, and Dwyer (2006) who stated that when instruction is being presented visually in conjunction with verbal delivery, learners were able to process the information at a deeper level and retain it in the long-term memory. Furthermore, their research also suggested that if one learning module (visual or associative) is being used, the other module (verbal or referential) is also being activated simultaneously. Learners can use visuals to make connections to previously learned concepts. Additionally, visually presented information would be learned permanently and easily recalled when the learners need the information to complete future tasks. This chapter begins with a description of the sample population used in the research study.

Sample of Population

This group of kindergarteners was in a Student Achievement Guarantee in Education classroom (SAGE), with a ratio of 15 students to one teacher. They attended this school since they started four years-old kindergarten. All the students in this study received free lunch.

These students were in the low reading group - they were considered at-risk and most likely would not succeed academically without intervention.

Nine students were recruited to participate in the study; however, one student did not return his permission slip. Therefore, he attended and participated in the instruction, but his data was excluded. These students were five and six years-old at the time of the study and racially diverse. There were five Asians, one Black, one White, and one Hispanic. Within the group, they were four girls and four boys. Of the group, five Asians were language learners and received English as Second Language (ESL) services on Tuesdays and Thursdays for 30 minutes. With the exception of the White student, the rest of the students did not speak or use Standard English.

The groups' academic ability was fairly even. On the latest district-mandated reading assessment, Making Academic Progress (MAP), all of the students scored either basic or minimum. They were assessed on phonological awareness, phonics, word structure, alphabetic knowledge, and comprehension. During small group formation, I read with them using the below-level readers, and they received extra reading support on a daily basis.

The preceding section described the sample of students used in the study. The following section will give more details regarding the procedures used during the eight week of the research study.

Procedures

This study took place over eight weeks in my classroom during the reading period, from 8:40 to 10:10 in the morning, Mondays through Fridays: the first four weeks before spring break and the second four weeks after spring break. I randomly picked four words from the weekly vocabulary list. During the first four weeks, students participated in weekly vocabulary pre- and

post-tests, focusing on the vocabulary for that week. I orally administered the vocabulary pretest to students on Fridays immediately following the reading comprehension test at the beginning of the small group formation. During these first four weeks I followed and used the district's standard reading curriculum exactly.

The district's standard reading format consisted of whole group, small group, and whole group instruction. I followed the teacher's manual without any extra visual support for the students. The only visuals I used during these first weeks were the ones provided by the reading series. In the whole group, I started every morning by introducing and reviewing phonemic awareness skills, such as phoneme blending or substitutions. After working on phonemic awareness skill, I introduced a letter of the alphabet. I focused on the letter sound and words that had the letter. For example, *bat* starts with the letter *b*. *B* makes the /b/ sound and made a list of words that had the focused letter.

Vocabulary words of the week were introduced on Monday to build prior knowledge and set context prior to reading the story of the week. When initiating the vocabulary words, I verbalized the word, showed the picture and the spelling of the word, defined it, scaffolded by using the words in context, and had the students repeat the word. I used the each word in several contexts and in different ways. If it was a word that had multiple meanings, I used the words in several forms and ways to illustrate the different meanings. For example, the word *beat* has several meanings. I used the word *beat* in several contexts: I am *beat* (tired) after walking for a long time; I *beat* eggs with a beater; Yeah! I *beat* you (win).

On Tuesdays, I followed the same routines, reviewed vocabulary words with the reading series visuals. On Wednesdays and Thursdays, I reviewed phonemic awareness skills, vocabulary words, and focused on a specific literacy skill, such as comprehension or reading

strategy. Students were given a comprehension reading assessment on Friday from the level reader that we read together in the whole group during the week. After the reading assessment, I orally administered the vocabulary posttest to the students followed by vocabulary pretest during small group formation. Each week, I followed the same consistent routine with the students.

The second four-week period was structured similarly to the first four weeks after spring break; however, there was a stronger emphasis focused on using visuals to demonstrate the meaning of each vocabulary word of the week. On Mondays during whole group formation, as a way of reviewing and activating prior learning, I continued to review a vocabulary word per day from the previous week. Then I introduced the vocabulary words of the week. I used the visuals provided by the reading series. On Tuesdays, Wednesdays, and Thursdays, when I reviewed the vocabulary words, I incorporated my own visuals along with the visuals provided by the reading series.

Depending on the words, I brought in pictures or photographs, real items, and video clips. For example, to illustrate the phrase or words *golden brown*, I brought in three pieces of toasted white bread as compared to the black and white visual that came with the reading series. The first slice of bread was lightly toasted, the second one toasted until it was golden brown, and the last one was toasted until it was dark brown. I showed the students the three pieces of bread. Students were asked to point to the *golden brown* slice of bread. Then I used the phrase *golden brown* in sentence to demonstrate the meaning of the phrase: I love *golden brown* bread because it looks so delicious. I also brought in photographs of golden brown muffins, loaves, and photographs of people with *golden brown* hair.

In another example, the word *grind* came up in the second half of the study. For the visual support for the word *grind*, I presented two 20 seconds youtube.com videos for the

students, on two separate days showing different methods of grinding. The first video showed a man crushing wheat by hand using a grinder. The second video showed a man pounding toasted yucca roots using a native grinding board and stone. I also brought in photographs and pictures of people grinding food from various cultures. After viewing the visuals, I explicitly gave the students the definition, demonstrated how to use the word in context, and practiced a pretend grinding action with the students.

I continued to scaffold and used the words in various contexts. I gradually released more of the responsibility to the students at using the words in contexts. On Fridays, I reviewed vocabulary words and continued to show the visuals to the students. After reviewing the vocabulary and reading the story, the students took the reading test. Then I assessed the students on the vocabulary of the week (posttest) once again followed by the vocabulary pretest for the upcoming week.

The next section describes the methods used to collect data during the research study.

Data Collection

To collect data, I first assessed the students using pretests and posttests. Prior to the beginning of the research study, I tested the students on sight words using the word list from QRI-V (Leslie & Caldwell, 2011). This step helped me determine what type of gains students would have made the end of the research study. At the end of each week, I evaluated students on the vocabulary of the week (posttest) and vocabulary words for the following week (pretest). I read the words to the students individually. The following criteria were used to determine success: 1) in your own words, tell me the word mean, 2) use the word in a sentence for me. Students must be able to demonstrate knowledge in these two tasks in order to be considered successful. This data will be shown in chapter four. I took anecdotal notes of events. After

instructing and using visuals to support the meaning of the words, I reassessed students using the same words and criteria (posttest). I repeated this process for the initial four weeks of the research study. These first four weeks were the comparison weeks. In the last four weeks, I evaluated students on Fridays before the treatment (pretest) during small group formation. After the students were instructed and shown extra visuals, I assessed the students again on Fridays (posttest). At the end of the eighth week, I reassessed the students using the same word list from QRI-V (Leslie & Caldwell, 2011). This was the posttest. To determine if students have made any sight words gains, I compared the total words from the posttest to the pretest to get the total sight word gains. I compared not only weekly scores but the first pretest to the first posttest. The next section will focus on the conclusion of the action research.

Conclusion

In this chapter, I have discussed the sample population, procedures, and data collection method using during the eight week period in my SAGE classroom of using visuals to support vocabulary development in urban students. During the four weeks, I followed a prescribed routine, using only the visuals that were given by the reading series. In the last four weeks, I followed the same routine, adding more emphasis on the visual support for the students. I administered both the pretests and posttests on Fridays. The overall pretest was given at the beginning of the study, while the overall posttest was given at the end of the study.

Chapter Four will present the results of the data collection demonstrating the effectiveness of the intervention. The data will be analyzed and summarized.

CHAPTER FOUR

Introduction

The purpose of this research and specific intervention was to determine the effectiveness of using visuals to support vocabulary development in eight urban students. Students in this intervention had a wide range of academic learning needs; they performed at either basic or minimal levels on a district and state mandated assessment. Five of eight students were English Language Learners (ELLs). The other members of the group consisted of one Caucasian, one Black, and one Hispanic. Within the course of the intervention, I used visuals to help students associate illustrations with vocabulary words. In the last four weeks of the intervention, I incorporated a variety of visuals and realia to intensify the effort to increase students' vocabulary development.

Two types of assessments were administered to measure students' growth throughout the intervention. The first assessment was a list of sight words from the QRI-V (Leslie & Coldwell, 2011). The pretest and posttest of the sight words lists were identical (Appendix A). The purpose of the tests was to determine what kind of gains students would make during the intervention. The second type of assessment consisted of the weekly pre and post tests of the selected essential vocabulary words. The list of words for pre and posttests of the weekly vocabulary was the same (Appendix B). Two record sheets were used to keep track of the weekly pre and posttests for the first four weeks (Appendix C) and the last four weeks (Appendix D). Students' vocabulary word knowledge and retention were assessed using a rubric I created (Appendix E). The following section details the data on the assessments throughout the intervention.

Data Results for Sight Words

Sight words are essential knowledge in early literacy. The results of the first assessment (sight word pre and posttest) were presented in Table 1. Table 1 illustrated the growth within the eight weeks intervention. The results demonstrated students acquired more vocabulary knowledge in sight words when compared to the pretest scores at the beginning of the intervention. The average word gain for the whole group during this intervention was 10.5 words. All students made some increase in identifying the vocabulary. The students increased their word identification by 8 to 12 words. The average sight word identification growth was about 10 words.

Table 1

Sight Word Identification Scores

Students	Sight Word Identification Pretest Scores	Sight Word Identification Posttest Scores	Difference
Student 1	11	22	11
Student 2	8	18	10
Student 3	15	25	10
Student 4	17	27	10
Student 5	12	21	9
Student 6	11	23	12
Student 7	7	19	12
Student 8	14	26	12

Data Results with Limited Visual Support

In the first four weeks of the intervention, I used the black and white visual support provided with the reading series to help with vocabulary development for the students. On a weekly basis, students took pre and posttest of vocabulary words from the same list. The weekly list consisted of four words for a total of 16 words. During the first four weeks of the study, students were able to identify between one and three vocabulary words. Table 2 displayed the result for each week for first four weeks of the intervention. In week one 5 of the 8 students increased by one word and 3 students increased by two words. In week two, 5 students increased by one word, 2 students increased two words and 1 student increased three words. In week three, 6 of 8 students increased one word, 1 student by two words, and 1 student made no increase. Last, in week four, 2 students increased word identification by one word, 2 students by two words, and four students made no increase. Numbers highlighted with yellow indicate an increase in the number of words identified.

Table 2

Pre and Posttest Scores with Limited Visual Support

First Four Weeks of Intervention with Limited Visuals								
Students	Week 1		Week 2		Week 3		Week 4	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Student 1	0	1	0	2	0	2	0	1
Student 2	0	1	0	1	0	1	0	0
Student 3	0	1	0	2	1	2	0	2
Student 4	1	3	0	3	2	2	0	2
Student 5	2	3	0	1	0	1	0	0
Student 6	0	2	0	1	0	1	0	0
Student 7	0	2	0	1	0	1	0	1
Student 8	0	1	0	1	0	1	0	0
Class Average (words/week)		1.75		1.5		1.375		0.75

Data Results with Extra Visual Support

During the last four weeks of the intervention, I provided students with extra visual support. I used videos from Youtube.com, photographs, print outs, and real life items on a weekly basis. Students continued to take weekly pre and posttests from identical word list (Appendix B). Each weekly list consisted of four (4) essential vocabulary words, for a total of 16 words during the entire intervention period. Table 3 demonstrated the results for each week

of the last four weeks of the intervention. As compared to the first four weeks of the intervention, on an average, students were able to identify essential vocabulary and made more gains at a higher rate in the last four weeks. In weeks one, two, and three, more than half or five out of the eight students could identify and retain three out of the four words satisfactorily, based on the criteria (Appendix E). Students 3 and 4 scored four out four on all the posttests for the four weeks. Student 6 scored three out of four of the vocabulary words in all four weeks of the intervention. As indicated in Table 3, all students made an increase in word identification every week. When calculating the averages for the class, the students increased 2.75 to 3.375 words in the four weeks intervention study. Numbers highlighted with green indicate an increase in the number of words identified.

Table 3

Pre and Post test Results Using Extra Visuals and Realia

Last Four Weeks of Intervention with Extra Visuals								
Students	Week 1		Week 2		Week 3		Week 4	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Student 1	0	3	0	3	1	3	0	2
Student 2	0	2	0	3	1	3	0	3
Student 3	1	4	1	4	1	4	1	4
Student 4	1	4	1	4	2	4	1	4
Student 5	0	2	0	2	2	4	0	2
Student 6	0	3	0	3	1	3	0	3
Student 7	0	3	0	3	1	2	0	2

Student 8	1	2	1	4	1	4	0	4
Class Average (words/week)		2.875		3.25		3.375		2.75

Conclusion

This chapter displayed data I collected during the eight-week intervention period. The eight students involved in the intervention completed two different assessments to measure the effectiveness of the instruction. The first sight word list from QRI-V (Leslie & Coldwell, 2011) was administered at the beginning and at end of the intervention. The pre and posttest word lists were identical (Appendix A). The second assessment pre and posttests of selected essential vocabulary words was shown in two ways. In the first four week of the study, the district's reading series visuals were used. In the last four weeks of the research, extra visuals and realia were incorporated to support students' vocabulary development. Students' vocabulary word identification was assessed based on the school's reading series. Students word knowledge was scored by using a teacher created rubric (Appendix E). The results indicated that in the first four weeks, students made less of gains in vocabulary knowledge with limited visual supports. The weekly average word gain ranged from .75 words to a 1.5 words. In the last four weeks of the intervention, students were able to learn and retain more vocabulary words with extra visual support. The average word gain ranged from 2.75 to 3.375 words.

While this chapter discussed the data collected to measure the effectiveness of the instruction during an eight-week reading unit, Chapter Five discusses and presents conclusions drawn from this data.

CHAPTER FIVE

Introduction

The purpose of this action research was to establish the effectiveness of an instructional intervention on vocabulary development using visuals to support urban student learning. The research question was, “Can I support my urban students’ vocabulary development using visuals?” The instructional intervention discussed within the previous chapters consisted of two four-week instructional periods. By the end of the eight weeks, my students’ attitude improved, and they were more involved and engaged in their learning. They also developed the ability to see smaller units of words in larger known words. In this concluding chapter, I will discuss the connections of my research to existing research, an explanation of my results, the strengths and limitations of the research study, and my recommendations for future research in the field of vocabulary instruction. The first section explains connections between my own research and existing research in the field of vocabulary development in reading.

Connecting to Existing Research and Common Core State Standards

Before beginning my study, I examined other research related to vocabulary development. As I collected articles for Chapter Two, I read and summarized research studies in the fields of reading and vocabulary development. The research can be classified into four main topics: phonics acquisition, vocabulary development, reading strategies, and vocabulary development through using visuals. I used this research as the framework for the design of my own research and was also interested in looking at whether explicit vocabulary instruction using visuals and realia would affect my students’ vocabulary development and enhance their reading ability.

The work of Connelly, Johnston, and Thompson (2001) and Beverly, Giles and Buck (2009) supported the idea that students who are well versed in phonics skills also are better readers as compared to their peers. Although phonics was not the intended focus of my research, this topic indirectly links to my own research in that they both focused on factors of reading skills. Phonics is an integrated daily reading component activity at my school.

Current research also supports the importance of vocabulary development in urban students. Accordingly, Greenwood and Flanigan (2007) and Irwin (2007) have shown that vocabulary knowledge is the single most important building block in reading acquisition and comprehension. A student may have excellent decoding skills; however, without vocabulary knowledge, the student would not be able to bridge connections between input and output, thus comprehension is minimal – creating incoherent text representations. When comprehension of a text is minimal, students continue to struggle with reading and falling behind their peers academically.

Furthermore, Carlo, August, McLaughlin, Snow, Dressler, Lippman, Lively, and White (2004) asserted that students' vocabulary could increase as much as 300 words per year if teachers explicitly taught vocabulary to students. Additionally, the Common Core State Standards (2010) explicitly stated that vocabulary knowledge was linked to an increase in reading skills, comprehension, and improved writing skills. Since my goal was to increase and enhance my students' vocabulary development, ultimately leading to reading comprehension, this research was associated to my objectives in the following ways. My first objective was to see if increased vocabulary instruction also increased other vocabulary knowledge, such as sight words. Secondly, I was interested to see if providing explicit vocabulary instruction by using extra visuals would support vocabulary development in my urban students.

Lin, Chen, and Dwyer (2006), Cronin and Myers (1997), and Akbulut (2007) explored the concept of using visuals to support learning in students in various settings. The results from their research indicated that students learned more, acquired more academic vocabulary words, and retained more information afterward when students' learning was supported by visuals. This concept of vocabulary development benefited both the mainstream and English language learners. The research further hypothesized students would need to be actively engaged and associate learning with personal experiences in order to maximize and retain learning gains. Keeping in line with the framework of this category, I incorporated extra visuals during vocabulary development in reading during the last four weeks of my research study. The visuals included short video clips, still pictures, and realia. When it was appropriate, I also used Total Physical Response (TPR) methodology to create personal experiences for the students in order to make connections and emphasize the meaning of each vocabulary word. While appreciating how this study connects to previous research was important, it was also important to examine the results of this study.

Explanation of Results

The overall results of the study supported positive outcomes and growth for all students. When gleaning the data presented in chapter four, several factors seemed to affect the growth of sight words and vocabulary development of students. The first examination looked at the results of students' sight word gains and other related word strategic use at the end of the study. The results demonstrated that all the students acquired more vocabulary knowledge in sight words when compared to the pretest scores at the beginning of the research study. The average word gain for the whole group during this intervention was 10.5 words. All students made some increase in identifying vocabulary. The students increased their word identification by 8 to 12

words. The average sight word identification growth was 10 words. I believe this occurred because students had increased their phonics skills, increased exposure to sight words, vocabulary words, and word play. When I introduced the word *shrink*, a student pointed out the word *in* within the word *shrink*, I wrote and underlined the word on the board and followed the following process with the students: “I know this word - *in*. The word is *in*. *In* starts with /i/ and ends with /n/. *In* rhymes or sounds like *tin*, *pin*, and *kin*. *In*. /i//n/. The word is *in*.” Often times, students would also start shouting out rhyming nonsense words. I made no attempts to correct students because I was teaching a skill. It was important for the students to practice the skill cementing the concept to become part of their learning repertoire.

While students’ sight word gains increased, their ability to identify smaller word units also improved or emerged. Students often pointed out and commented on smaller word units they saw in the larger words as I introduced new vocabulary words during whole and small guided groups during and after the intervention. In one scenario, when the word *assistant* was introduced, several students pointed out that they noticed the following words: *a*, *as*, *is*, *sis*, *ant* in the word *assistant*. When students know some words well, they can also connect and make associations to other words (Irwin, 2007). As a result, students not only expanded their sight word repertoire, but also developed the ability to identify smaller units in larger known words. This may be due to the fact that I used a variety of visuals to support students’ learning. These visuals included animated video clips, still pictures, and realia. When combined together, these visuals offered opportunities for multi-sensory use of the senses. Often students used their senses through touching, seeing, hearing and speaking. When multiple senses were used for learning, learning tended to become more permanent (Cronin & Myers, 1997; Rakes, Rakes & Smith, 1995).

A third result was the impact on students' overall vocabulary development. As compared to the first four weeks of the intervention, on average, students were able to identify essential vocabulary and made more gains at a higher rate in the last four weeks. In weeks 1, 2, and 3, more than half, or five out of the eight students could identify and retain three out of the four words satisfactorily, based on the criteria. Students 3 and 4 scored four out of four on all the posttests for the four weeks. Student 6 scored three out of four of the vocabulary words in all four weeks of the intervention. All students made an increase in word identification every week. When calculating the averages for the class, the students increased 2.75 to 3.375 words in the four weeks intervention study. Increased word identification was inspired because the visuals I used to support students' vocabulary development were authentic and affective. Some of the visuals were real items and multi-sensory, which allowed students to use more than one senses to learn. When a video clip was shown, one of the students stated that her uncle has a grinder just like the one in the video. Learning through the use of multi-sensory process heightened students' senses, thus motivating them to learn and engage in their own learning (Irwin, 2007) and co-construct learning with their peers. As a result from these authentic and affective experiences, students' learning became a permanent part of their academic repertoire.

Although the students' phonics skills were not explicitly assessed, documented, nor a focus area in the study, the positive ripple effect from the study was evident. Based on daily interaction with the students and informal assessments, all the students knew their letter sounds fluently by the end of the study. Students who have developed strong phonics skills tend to be better readers (Connelly, Johnston & Thompson, 2001; Beverly, Giles & Buck, 2009). This success can be presumed to my use of explicit instructional language and visual support when I introduced new vocabulary words. I noticed that students were more engaged and enthused

during phonics activities because they had the foundational knowledge and knew what they were doing by the end of the school year. The impact of using visuals and realia to support students' vocabulary development strengthened more than one area of growth. Beside vocabulary growth, students' phonics skills, as well as the ability to identify smaller units of words in larger known words also grew. This methodology demonstrated positive benefits for students. With the success of this study there were also strengths and limitations to the design.

Strengths and Limitations

This study had strengths as well as limitations. One of the strengths was the instruction that took place during the intervention weeks. During the four weeks of intervention, students were provided with a variety of visuals to support their learning and vocabulary development. These visuals included animated videos, still pictures and realia. When students saw and held real objects in their hands, they were able to manipulate them, connect the objects to the stories and their reading, as well as activate and build prior knowledge. I believe since the visuals were varied, students had many elements to connect to the vocabulary, to previous learning, and to set the stage for new learning experiences.

The second strength of the study was that the intervention took place in the regular room, at the same time, and with the same teacher. Rather than working with a new teacher, the students worked with me, their regular classroom teacher. The students were used to the same predictable and consistent routine. Leslie and Caldwell (2011) stated that students learn best in a familiar and consistent environment. The students knew they could expect the same things to happen on a daily basis. This familiarity created a secure and predictable environment for students to take chances. Many students felt safe and took more risks by participating on a

regular basis. Very quiet students in the reading group also participated. This process environment and process also allowed for many learning opportunities that otherwise might not occur in an unfamiliar environment. Even with these strengths, there were limitations to this research study.

The first limitation was the length of the research study. The intervention lasted four weeks. While students did make reading gains, the long term significance of the instructional methodology could not be reliably documented in terms of long term implications. Therefore, it is vitally important to see if this instructional methodology can be replicated on a longer study.

The second limitation was documentation. Although I knew students made gain in phonics and other vocabulary related skilled areas, I did not take into account the impact these skills have on their learning. In order to provide supportive evidence that my students had made gains in more than just vocabulary development, I could have used a third assessment on phonics, such as DIBELS (2011) and take anecdotal notes to document their growth. If I had used a phonics assessment, I would have been able to categorically state that students did make phonics gain during this research study. Additionally, I would also know how much gains students made in the phonics area. Anecdotal notes would have helped to pinpoint students' strengths, weaknesses, and progress during the research study. It would also allow me to reflect on my teaching, becoming a more effective teacher.

Recommendations for Future Research

In looking at the strengths and limitation of this study, several recommendations can be made regarding future vocabulary development research study. The first recommendation would be to increase the sample size and the grade levels of the study. The sample size in my research

study was eight 5 and 6 year old kindergarteners. In order to determine if this instructional methodology is effective, future research would need to include a larger sample size and include a variety of grade levels. The larger the group, the more reliable and accurate the results will be to determine the effectiveness of using visuals to support student vocabulary development.

The second recommendation was to increase the length of the study. This research study was four weeks long. It yielded positive results. With a longer study length, there would more reliable results from the study to examine. The results from the long term study could be used to correlate with other similar studies to see the long term effect of similar instruction.

Additionally, longer research would allow opportunities to glean retention rate over time. The maintenance rate would be an important strand to examine because it would serve two purposes: the effectiveness of the instructional methodology and connections to previously learned vocabulary words. As a result, word comprehension is vital to students' long term success as research has indicated that vocabulary knowledge is the single most important element in reading acquisition and comprehension (Greenwood & Flanigan, 2007; Irwin, 2007).

Conclusion

This research study regarding the effects of using visuals to support vocabulary development in urban students can be connected to other research and the Common Core Standards. Results from this research were used to explain the positive outcomes. This research study has shown students are more engaged in their learning when they understand words and can apply to their own learning. In addition to understanding and applying words to their learning, students also developed other reading skill components, such as phonics and the ability to identify smaller unit words to a larger word. After analysis of this investigation, I believe this

type of instructional methodology was effective when working with urban students and focusing on vocabulary development. Overall the findings from this research proved to be positive and successful for urban students. There were strengths and limitations to this work. One of the strengths was that a variety of visuals were used to support students' vocabulary development. Students benefited from the visuals. On the other hand, one of the limitations of the research was that the length of the research was short. The intervention lasted four weeks. Given the short time of the intervention, the results could not be definitively concluded that this instructional methodology was effective to support urban students' vocabulary development.

The process of action research within my classroom has had a huge impact on me as a person and professional educator. Based on these results, I will be using more visuals to support my students' vocabulary development in the future. The process showed me that students can learn and make gains when visuals were used to support their vocabulary development. The value of investigation inside my own surroundings was of value to my students as well. As a teacher in education, I hope to share this information with my colleagues and professionals in the field of education.

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Appendices

Appendix A

Sight Word List

can	there
I	under
of	help
me	look
write	too
play	other
just	place
some	where
they	under
people	help
he	
go	
do	
on	
was	
she	
make	
same	
like	
doing	

Appendix B**First Four Week Essential Vocabulary List Used Prior to the Study**

Week	Words
1	idea, just, plain, together
2	blend, cub, den, scraps
3	gills, hatch, shrink, tadpole
4	communicate, mood, scent, survive

Second Four Week Essential Vocabulary List Used During of the Intervention

Week	Words
1	crop, golden, grind, sprout
2	assistant, generous, shocked, volunteers
3	creatures, firmly, kite, launched
4	bellowed, dingy, rumbled, waiters

