The Effects of Visualization Instruction on First Graders' Story Retelling

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THE EFFECTS OF VISUALIZATION INSTRUCTION
ON FIRST GRADERS' STORY RETELLING

By
Tracy Zimmerman

A Thesis submitted to the
Department of Education and Human Development
in partial fulfillment of the requirements for the degree of
Master of Science in Education

Degree Awarded:
Spring Semester, 2003
SUBMITTED BY:

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Candidate  Date

APPROVED BY:

Thesis Advisor  5/13/03  Date

Second Faculty Reader  5/13/03  Date

Director of Graduate Studies  5/15/03  Date
Acknowledgements

Thank you Jay, Corey, Braeden, and Mom for your help, support, and sacrifices.

Thank you Dr. Gerald Begy and Dr. Arthur Smith for your wisdom, caring, and influence on my career.
Abstract

This study investigated the effects of visualization instruction on first graders’ comprehension as shown in their retelling scores that preceded a running reading record. The premise of this study was based on the need to teach students how to actively engage in comprehending text while reading. Students in this study were taught the importance of visualization as it aids comprehension of text. Students were taught how to visualize stories with no print, stories with no illustrations, and stories with illustrations and print. Journals and story maps were utilized to increase visualization usage and retelling abilities.

Students were given pre and post tests to identify their use of visualization strategies and to measure the effects of this skill on their retelling scores. This experimental research was analyzed using a dependent t test to quantitatively determine the cause and effect relationship between the visualization scores and the retelling scores of the twenty-two first grade students that participated. The results of this study were statistically significant.
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CHAPTER I

Statement of the Problem

Purpose

The purpose of this study was to determine if visualization instruction in a balanced literacy program adequately teaches first graders to independently use visualization strategies while reading to enhance their story retelling abilities.

Need for the Study

Comprehension of text is a critical and active process; it is the reason why we read. Students need to be taught the importance of actively thinking while reading to comprehend text. Supported by their research, Brabham and Villaume define active readers as strategic readers who are thoughtful and skillful when they read. Brabham and Villaume (2002) believe that when we teach students how to become strategic readers, we also teach them that reading is empowering. They support that students who feel empowered by their own reading are, for example, more often compelled to visualize their understanding of what they read. Likewise, they are more apt to ask their own questions about literature, make connections with text, and make predictions about possible outcomes to enhance their comprehension.

Students can have adequate decoding skills but still have difficulty comprehending what they read. P.K. Dewitz and P. Dewitz (2003) provide an
example of a child named Mark who demonstrated issues with listening, working independently, and understanding what he read when he was in first grade. As Mark went through all of the elementary grades, his decoding skills increased, but his comprehension of text did not. It was determined from testing that Mark had difficulty making inferences. His teachers turned toward strategy instruction to indirectly force him to think purposefully when he read. He was taught how to visualize, make predictions, self-question, and search for importance when reading in an order to help him make inferences. These processes were modeled for him and his teachers walked him through these strategies to help Mark become a responsible reader. This proved to be a starting point to increase Mark’s comprehension of text.

Educators need to teach children, like Mark, how they can be successful, or empowered, when they read. Too often teachers spend time teaching children how to comprehend individual stories with skills that cannot be generalized to other text. Visualization is one way that readers can successfully achieve comprehension, as it is a skill that can be used with every story that a child reads; it is a realistic tool to help children comprehend text. Some research suggests that major differences between students who are efficient at comprehending and those who are not is that the former are better able to develop visualizations during the reading process. Seeing the author’s message, seeing “the movie,” increases
students' abilities to make connections, inferences, predictions, and commit their sense of the story to memory for recall (Ekwall & Shanker, 1998).

In order to teach students how to become empowered strategic readers, teachers need to draw on a variety of teaching strategies themselves. Peterson and VanDerWege (2002) strongly recommend a balanced literacy program to accomplish this. Teachers who use a balanced literacy program incorporate reading aloud, shared reading, guided reading, independent reading, interactive writing, shared writing, independent writing, and spelling in context to meet the wide range of needs of their students. Through these avenues, teachers can model, instruct, and support the use of visualization and other comprehension strategies by giving different levels of support and guidance as students take over the responsibility for using these strategies on their own.

Assessment of students' reading growth and use of strategies is essential for teachers to analyze and adjust their own instruction. To do this, educators need to properly assess students' comprehension in a highly effective manner. Comprehension assessment needs to go beyond literal recall as with the traditional use of comprehension questions. Burriss (2002) promotes the use of story retelling because it provides evidence of children's thinking processes. It is becoming such an effective means to assess students that standardized tests are increasingly asking students open-ended questions to draw out more of their insight about what they read (A.J. Applegate, M.D. Applegate, & Quinn, 2002).
Valencia (1997) believes, however, that standardized tests still do not adequately measure students’ comprehension and that there is still need for improvement to make assessments more authentic. The alternative she recommends, just like Burriss, is story retelling. Students learn and develop a sense of how stories work, therefore their testing should reflect that learning. When students demonstrate higher level thinking skills through retelling stories in their own words, what occurs is more of an authentic assessment that provides teachers with practical and valuable feedback to make productive “instructional decisions.” Valencia concludes her article by stating that retelling is only one strategy teachers have to authentically assess students’ comprehension. Other methods that should be utilized and balanced with retelling are interviews, discussions, pictures, dramatizations and occasionally, comprehension questions.
CHAPTER II

Review of the Literature

Purpose

The purpose of this study was to determine if visualization instruction in a balanced literacy program adequately teaches first graders to independently use visualization strategies while reading to enhance their story retelling abilities.

Introduction

Primary students are taught a myriad of literacy skills and strategies to become effective decoders and fluent readers. These skills and strategies lay the groundwork for comprehending text, but they do not insure it. Comprehension needs to be taught in order for students to understand and remember what they read (Bell, 1991). Comprehension strategies, such as inferring, predicting, asking questions, and summarizing, should become automatic and independent within each child. Visualization, or visual imagery, is another very important comprehension tool that students need to learn and use independently. When students form pictures in their minds of what they read, they are better able to remember and understand text (Gambrell & Jawitz, 1993).
The Importance of Visualization

When we chose visualization as a means to better understand a story, we make our reading and the voice of the author more personal (Goudvis & Harvey, 2000). The image or the “movie in our minds” engages us and, according to Bridge, Long, and Winograd (1989), it increases the effectiveness of our memory. Imagery functions as an “organizational tool for coding and storing meaning gained from the reading” (p. 370). Additionally, Gambrell and Jawitz (1993) support that mental images aid other processes used to comprehend text as well, such as constructing inferences, making predictions, and using schemata.

The Whole Picture

An effective reader is one that can gestalt images, or visualize the whole circumstance, that an author is describing. “Vivid gestalt imaging may even be considered a ‘vicarious experience’” (Bell, 1991, p. 248). That is, as Goudvis and Harvey (2000) previously stated, the reader learns from the movie that is created in his or her mind, as opposed to actually living the events of the story. With strong visualizations that gestalt imaging allows, an individual is better able to predict and understand the sequence of events in a story, form relationships with the characters, learn new vocabulary, and ultimately store this information efficiently for later retrieval when he is called to demonstrate comprehension of the text (Bell, 1991).
The Importance of Illustrations

Discussed thus far have been the benefits of independently creating images in one’s mind to better understand what is read, but what about the illustrations that accompany the text? Do they hinder or aid mental images? The answer is “yes” and “no.”

Elster and Simons (1985; 1990) support that pictures help captivate and motivate children to comprehend stories. Pictures that are provided help a young reader to visualize the story as the child transitions from oral language into written text. They also state that books for early readers need to have less print to be digestible, which illustrations can make up for and still allow the child to comprehend the story.

Illustrations, however, can be problematic for poor readers who find it troublesome to shift back and forth between the print and illustrations. Rose cited a theoretical explanation in her research from Samuels (1967; 1970, as cited in Rose, 1986) stating that learning disabled readers tend to pull irrelevant information from illustrations and focus more on that irrelevant information than the print.

Elster and Simons (1985) make a strong point that students need to be able to look for meaning in words, rather than primarily look for meaning in pictures. “Picture-dependent stories could give children the wrong expectations of what written language is like, or it may violate the expectations children bring to
reading” (p. 152). Elster and Simons encourage teachers to expose younger students to text vocabulary that is rich in meaning through read alouds that provide them with more balanced visualization instruction and experiences.

Two studies by Chan, Cole, and Morris (1990) and Gambrell and Jawitz (1993) provide results that show illustrations combined with students’ own visualizations optimize reading comprehension. In Chan et al., elementary students who participated were grouped into three conditions: students that received visualization instruction without pictorials; students that received visualization instruction and viewed pictorials; and a control group of students that were told to read and reread the text. They found that students who were told to form a picture in their minds of what they read, and then were shown pictures of events in the story, scored higher on their comprehension test, even the disabled readers who participated in the study. Results from this experiment confirm the need to teach students how to visualize and support or backup those visualizations with the vivid images that illustrations provide the reader (1990).

Likewise, Gambrell and Jawitz (1993) hypothesized that if in their study they instructed students on how to self-generate images and pay attention to pictures that accompany text, those students would be most effective at comprehending what they read. Gambrell and Jawitz studied four treatment groups: children only learning how to image; children only learning how to use illustrations; children receiving instruction on both; and a control group that did
not receive any intervention at all. Similarly, their findings showed that the children who were told to make images in their heads and to look carefully at the pictures recalled more details from the story, as opposed to the other three conditions. These results suggest, as well, that the interaction between the two enhance comprehension of text.

Comprehension as Evidenced in Story Retelling

Educators teach students story retelling as a means to demonstrate comprehension of stories they have read. Retellings can be written or oral (Brown & Cambourne, 1987). Children are asked to recall the elements of a story, such as the main events, characters, beginning, middle and end, and the setting of the story. Fountas and Pinnell (1996) require that stories are retold in proper sequence and that students use some specific vocabulary from the story to further evidence their comprehension.

Brown and Cambourne (1987) interviewed young students whom they observed to show a huge growth in confidence in relation to their reading and writing performance. They found that this increase in students’ confidence was heavily related to the retelling instruction they had received over time. Some children stated that retelling sessions helped them to: understand more what they were reading; it gave them more ideas to use in their own writing; retelling
lessons helped students to understand how others think; and retelling helped some students to learn new words that they hadn’t used before.

A Further Look at the Role of Illustrations and Words in Students’ Visualizations and Written Retellings

Teacher and writer Beth Olshansky (1994) cites in her article this powerful quote from author and illustrator Eric Carle: “I wish I could say that the pictures come first or the words come first. But no, it is not that simple. It is the idea which comes first in pictures and in words” (p. 350). This quote helps to further explain that pictures and words work together for writers and readers. Ideas that authors communicate through their writing are unified by both illustrations and text.

When Olshansky (1994) teaches reading and written retellings to her elementary students, she asks them to first draw the visual images they create in their minds when they hear or read vivid language in a story before they write about it. Olshansky supports this teaching strategy by quoting in her article a statement made by Hubbard (cited in Olshansky, p. 350); “Children’s drawings are visual tools for problem-solving. Through them children make sense of the world, and impart their visions.” This “sense” that they make is a combination of words, pictures, and visualizations. In an interview Olshansky conducted, one of her third grade students spoke of how she learned from this skill and now applies
it in her own written retellings. This student stated that she illustrates her pictures first so she can remember to use the same describing words in her writing that originally helped her to create visualizations from the story she read. She uses her pictures to “see” her describing words.

The Role of Response Journals

Journals are a tool for students to use to reflect upon what they have read. They can write about their reactions to a story, they can summarize or retell a story, and they can write about ideas that they can use in their own future writing (Williams, 1998).

Whitin uses a “sketch-to-stretch strategy” (2002, p. 444) to show students how to draw in their journals a sketch of their own interpretation of the story they read or heard. After students sketch and stretch their understanding of the story in their journal, they respond to it by writing about their sketch. Whitin (2002) follows a similar format as Oshansky (1994) to engage students in this process: first children read or listen to a story; next they talk to their peers about vivid words in the story that helped them to comprehend it; then students draw their sketches about the story; and finally students write their journal response using their sketches and conversations with other children to aid them.
A Look at Story Mapping

A story map is a detailed display of the elements of a story. These elements often include the characters, setting, problem, important details, and conclusion of a story, which help students to make sense of a story. This kind of visual tool works to increase students’ comprehension and can be evidenced in their retellings and ability to answer questions (Gunning, 2002).

Many formats are used for story mapping, but the elements are always similar. The purpose is for students to “internalize” new stories they read to aid their understanding, so the style is irrelevant (Routman, 1991). When students can, for example, organize and retain characters’ influences in a story or the plot of a story, they will develop a deeper understanding of the story (Gardill & Jitendra, 1999). Ekwall and Shanker (1998) suggest that in order for students to internalize a story, they need to be helped to vicariously or actually experience the elements in a story, such as the setting, before they can use a story map to aid themselves in visualizing it. Routman (1991) similarly states that children need to incorporate adequate schema, or background knowledge, into their story maps and visualizations to fully comprehend a story. Therefore, students need to be able to understand what they map in order to visualize and comprehend it.

Gardill and Jitendra (1999) state that, “In general, explicit instruction in both story grammar and the use of story maps has resulted in positive effects on reading comprehension skills of elementary and secondary students with and
without [learning disabilities]" (p. 2). They cited in their research several studies that demonstrated enhanced reading comprehension in students who studied story elements of the stories they read and who simultaneously used story-mapping strategies. One such study investigated the influence of story map instruction on the ability of five learning disabled students to retell stories. They found that four out of five of these students gave retellings with greater quality pertaining to the elements of the stories they read. Their retellings became longer than those they had previously given before the study began. The authors of this study, Idol and Croll (as cited in Gardill & Jitendra, 1999), claim that four of the five students also showed a 6-month gain in achievement on their standardized reading comprehension tests.

Story maps also prove invaluable for students who struggle to compose writing pieces, because it assists them in visually creating and organizing their thoughts. Once this is accomplished, students can proceed to use this informational foundation to write a story that does not leave out pertinent elements (Gunning, 2002). Routman (1991) concurs that story maps increase the quality of student writing because children are forced to think through what will happen in their story before they begin writing it. Thus, more details, or “main happenings,” will occur in students’ stories and the potential for children to write richer story-endings is increased.
Balanced Literacy

A balanced literacy program provides different reading and writing experiences for children and gives them different levels of support. The teacher's role is to observe students while helping them to develop strategies necessary to become independent readers and writers. Balanced literacy requires that teachers read aloud to students to expand their vocabulary, genre knowledge, and to demonstrate phrased and fluent reading. Enlarged text is used for shared reading experiences that teach children how to predict outcomes, word-by-word match, and is a source for word study and writing instruction. Guided reading allows teachers to work with small groups of children who have the same literacy needs at a given point in time and supports the use of skills taught while children attempt to problem solve on their own. Independent reading provides students with opportunities to apply reading strategies independently. Balanced literacy also includes shared writing experiences that allow teachers to demonstrate for children how writing works. Interactive writing is used to teach children "breaking down and building up" concepts in writing; it expands students' knowledge of how words work and, it teaches children how they can write a piece on their own. Guided writing provides children with opportunities to write with teacher support and lastly, independent writing allows children to write across the curriculum for many different purposes (Fountas & Pinnell, 1996).
Visualization Instruction

Ekwall and Shanker (1998) suggest that teachers initially demonstrate for students how to visualize. A teacher should think aloud about what he or she visualizes while reading. The teacher then reads more passages from the book and calls on students to express their visualizations. Passages should contain information that students are familiar with to aid the process. Differences and similarities in mental images should be discussed.

Goudvis and Harvey (2000) teach visualization in a variety of ways with picture books, text only books, and interestingly, with wordless picture books. The illustrations in wordless picture books do not always show everything that might happen from picture to picture in the story. Some things are left up to the reader’s imagination. “We take the clues revealed in the illustrations and combine them with the missing pictures we create in our minds to make meaning” (p. 97).

Text with vivid vocabulary is chosen by Goudvis and Harvey (2000) to teach students how to create meaningful images to enhance comprehension of a story. Passages with specific nouns and compelling descriptions are ideal for this instruction. Students close their eyes and visualize scenes from the story. Also, Goudvis and Harvey instruct children on how to use all of their senses to construct images. Well-chosen text tempts readers to imagine that they can taste, see, smell, hear, and touch the situation they are reading about. Students are
asked to write and draw about their visualizations quite frequently to make their images more concrete. Coe (1987) recommends, as well, that students draw pictures of their visualizations and in the correct sequence to demonstrate comprehension of the story.

Keene (2002) reads poems to children that may evoke vivid images. She instructs children to close their eyes and listen for words that help them to create those visual images. Students then work in groups to plan a dramatization for the class to show their visual interpretation of the poem. Keene also teaches children that our visualizations change and develop as we read. She uses journal writing and sketching as a way for her students to log how their visualizations adapt while they are reading.

Lastly, in her article, Staal wrote of the “Story Face Strategy” (2000, p. 26-31) that she developed to help students visualize story elements. This is a story mapping strategy that takes the shape of a face. The setting and main characters are written by the students in circles that make the eyes of the face. The problem of the story is written in a rectangle that becomes the nose and so on. This type of story map, according to Staal, becomes an appealing and easy-to-remember tool for younger students to visualize when they recall the elements of a story to retell what they just read (see Appendix A).
CHAPTER III

Design of the Study

Purpose

The purpose of this study was to determine if visualization instruction in a balanced literacy program adequately teaches first graders to independently use visualization strategies while reading to enhance their story retelling abilities.

Research Questions

1.) Does the teaching of visualization strategies in a balanced literacy program significantly impact first graders' retellings during a running reading record?

2.) Does the teaching of visualization strategies in a balanced literacy program significantly impact first graders' use of visualization during a running reading record?

Methodology

Subjects

The subjects in this study were twenty-two heterogeneously grouped first graders in a suburban elementary school. Eleven students were boys and eleven students were girls.
Materials

The materials that were used in this study were leveled books designated by the school for conducting running reading records, necessary forms the teacher filled in during each running reading record, a teacher notebook to log answers to the three visualization questions students were asked during the running reading record, post-it notes, student journals, read aloud books, shared reading big books, and leveled guided reading books. The following is a list of read aloud and shared reading books used to instruct students on visualization strategies:

**Carl Goes to Daycare** by Alexander Day (Green Tiger Press)

**Dream Weaver** by Jonathan London (Silver Whistle)

**Mufaro’s Beautiful Daughters** by John Steptoe (Lothrop, Lee, and Shephard Books)

**Hattie and the Fox** by Mem Fox (Bradbury Press)

**Everything Grows** by Raffi (Crown)

**The Berenstain Bear Scouts Save That Backscratcher** by Stan and Jan Berenstain (Scholastic)
Procedures

This study took place over a period of eight weeks. Students were given a pretest at the beginning of the study followed by the experimental treatment, then the students took a posttest at the conclusion of the study.

As a pretest, the teacher conducted a running reading record on each student the first week to determine his or her independent reading level and knowledge of visualization usage. Halfway through the running reading record, the book was removed by the teacher and student was asked three visualization related questions to set a baseline for his or her knowledge about this concept (see Appendix B). The questions were asked at this point to see if the child was creating images about the content of the story during the reading. The book was returned for the third question, and then the student completed the running reading record. After reading the book, each student was asked to retell the story in his or her own words to demonstrate comprehension of the story. An additional set of standard comprehension questions were asked after each student had read and retold the story. Scores for these questions were only used to help calculate each child’s independent reading level and was not studied in relation to the visualization instruction.

During the six weeks that followed, students were taught the importance of visualization and how to use visualization strategies with books that have pictures and with books that do not. Students drew pictures and wrote in their
journals about what they visualized in their minds and they wrote about key words that triggered those visualizations. They were given time to verbalize their visualizations with peers. Students then learned how to use those images to produce an enhanced story retelling. The Story Face story map was introduced as a visual tool for retelling a story. All instruction was done through teacher modeling in read alouds, group modeling and practice in shared reading, and individual refinement in guided reading groups.

The teacher conducted a posttest during the eighth week of the study by using running reading records the same way they were used for the pretest at the beginning of the study. This allowed the researcher to look for increased retelling scores and an increase in use of visualization while reading.

**Analysis of Data**

A dependent t test was used to quantitatively determine the cause and effect relationship between the visualization scores and the retelling scores. Points were earned on the retelling portion of the pre and posttests when a child verbally gave details relating to the main characters, setting, plot, and ending of the stories. More points were received when details were given in correct sequence. The school provided forms and standardized procedures for the retellings.
Students earned up to three points, one for each question, on the visualization portion of the pre and posttests. A point was earned for the first question if a student answered "yes" to making a picture in his or her mind. If the student said "no," then the questioning did not continue and the student did not receive any points.

If a student stated or described a picture in a couple or more words that was seen in her mind, and it was relevant to the context of the story, then that child received one point. A response might have began with, "I saw . . . ." If a child was unable to state or describe a picture in his or her mind, the questioning stopped, and the child did not receive any points for the first or the second question. Therefore, the first two questions had to be answered satisfactorily to receive two points, otherwise no points were earned suggesting that visualization was not really used.

One point was earned for the third question if a child mentioned and located one or more words in the story that described the picture that was created in his or her mind. A student did not earn a point for this question if an answer was not given or if the words stated did not appear in the text. If the child did not earn a point for this question, the previous two points earned from questions one and two still remained.
CHAPTER IV

Findings and Interpretations

Purpose

The purpose of this study was to determine if visualization instruction in a balanced literacy program adequately teaches first graders to independently use visualization strategies while reading to enhance their story retelling abilities.

Analysis and Interpretation of the Data

A paired two-sample $t$ test for the means of the pre and post retelling measures, and likewise for the pre and post visualization measures, was conducted to determine the statistical difference between the two means in each case. The probability $P(T \leq t)$ that the variable affected the results is 0.00. The critical $t$ at the .05 level is 2.08 proving that the difference between the means did not occur by chance. The retelling $t$ stat of -7.38 and the visualization $t$ stat of -3.81 were found to be greater than the critical $t$, therefore the data rejected the null hypothesis. It was concluded with a 95% confidence level, that the means of the retelling and visualization posttests are respectively significantly greater than the means of the retelling and visualization pretests.
Table 1 – Pre and Post Retelling Data

$t$ Test: Paired Two Sample for Means – Retelling

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<td>Standard Deviation</td>
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</table>

The research question was: Does the teaching of visualization strategies in a balanced literacy program significantly impact first graders' retellings during a running reading record?

Finding and Interpretation: The data present in Table 1 show that the critical $t$ was 2.08. The obtained $t$ was -7.38. This demonstrates that there was a statistically significant difference between the pre and post retelling scores.
Table 2 – Pre and Post Visualization Data

$t$ Test: Paired Two Sample for Means - Visualization

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.91</td>
<td>2.36</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.27</td>
<td>1.18</td>
</tr>
<tr>
<td>Observations</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>$t$ Stat</td>
<td>-3.81</td>
<td></td>
</tr>
<tr>
<td>$P(T \leq t)$ two-tail</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>$t$ Critical two-tail</td>
<td>2.08</td>
<td></td>
</tr>
</tbody>
</table>

The research question was: Does the teaching of visualization strategies in a balanced literacy program significantly impact first graders' use of visualization during a running reading record?

Finding and Interpretation: The data present in Table 2 show that the critical $t$ was 2.08. The obtained $t$ was –3.81. This demonstrates that there was a statistically significant difference between the pre and post visualization scores.
CHAPTER V

Conclusions and Implications

Purpose

The purpose of this study was to determine if visualization instruction in a balanced literacy program adequately teaches first graders to independently use visualization strategies while reading to enhance their story retelling abilities.

Conclusions

The results of this research study prove that there is a statistically significant difference between the pre and post visualization scores and, likewise, between the pre and post retelling scores. The retelling $t$ stat of -7.38 and the visualization $t$ stat of -3.81 were found to be greater than the critical $t$, 2.08, therefore the data rejected the null hypothesis. It was concluded with a 95% confidence level, that the means of the retelling and visualization posttests are respectively statistically significant.

Observations

Looking at the data and working with the students in this study, I observed that the range of scores for both the retelling and visualization measures decreased from the pretests to the posttests. The scores of the lower level students increased
the most, which in return decreased the ranges. Possibly these students gained the most because they had the most room to grow.

Sometimes during the visualization posttest, students gave responses stating that the pictures in the book helped them to visualize, not just the words. A few students made inferences using the pictures they created in their minds. This demonstrated that more types visualization skills than measured were used by the children.

Some of the higher students did not use visualization during the posttest, even when they may have used it during the pretest. Their reading growth over the course of this study may have made the book levels for the post running reading records too easy for them. It is possible that students do not need to use or rely on visualization to comprehend text that is lower than their maximum independent reading levels.

In a post hoc analysis, I found that statistically students’ post visualization scores had no effect on their post retelling scores. Sometimes students showed growth on one posttest but not the other. An individual student in this study, for example, commented before his post retelling, “I am going to try to visualize it.” His pre visualization score was zero, and his post visualization score increased greatly to a three out of three points. He was definitely successful using visualization. His pre retelling, however, was already a high number of 18. His post retelling only went up to 20 out of an infinite number of points. This does
not prove that visualization helped him to gain those two points and certainly did not help him to achieve a proportionately greater post retelling score.

**Implications for the Classroom**

As the statistically significant data in this study revealed, visualization instruction greatly increases students' use of the skill and, when combined with story retelling instruction, it also increases students' ability to demonstrate their comprehension through retellings.

Visualization instruction can be easily implemented by incorporating it into read alouds, shared reading instruction, journal writing, and guided reading instruction. Balanced literacy programs allow teachers to provide varying levels of support to teach this strategy. After modeling for students how to visualize and make pictures in one's mind or on paper, it's a matter of providing students with practice to use the skills taught. Students need many opportunities to visualize when listening to and reading stories. It is also very important to teach students the importance of visualization, and comprehension as well, so they understand why and when they should visualize to comprehend stories.

Today's education system encourages teachers to incorporate skills and content together as opposed to teaching them in isolation. Visualization instruction is ideal because it supports the use of other comprehension strategies, such as inferring, making connections, and making predictions. When students
actively think about text with visual images in their minds, they are in a better position to think critically about what might happen next in the story, about why an event occurred in the story, and how events in the story relate to themselves, other stories, or the world.

Implications for Further Research

I would suggest asking students to stop themselves to tell the researcher when they have visualized during a running reading record. Visualization can happen at any point during a story and further research should be sensitive to that. Also, allowing a child to stop and signify when a picture is made in his or her mind is more valid than asking a child to respond with yes or no. This would prevent a child from telling the researcher a perceived desirable response.

Further research can investigate the impact of visualization instruction on students' retellings during a running reading record, but without instruction on using visualization to give a detailed retelling as in this study. This would show the significance of visualization instruction on its own.

A comparative study looking at the differences between high and low achieving students and differences between girls and boys could be studied. This will provide educators with more knowledge about how to meet the needs of different populations of students or specific children. Differentiated visualization instruction might prove to be more profitable for students at different skill levels.
A comparative study that surveys and investigates different school systems' methods for teaching visualization in or throughout the various grade levels might show the magnitude of its benefits. This type of research could show which methods are easier to implement and which methods provide districts with greater results. Knowledge can be gained about how to successfully build upon visualization instruction that has been introduced in the primary grades. All comparative research can be used to create ideas for future experimental research to further refine teaching strategies.

Final Statement

Visualization instruction in this study had a statistically significant impact on students' story retelling performance and visualization use. The interaction between story retelling and visualization instruction helped the students who participated to further comprehend the text they read. Techniques used in this study are recommended for all primary and intermediate educators to promote active thinking while reading to meet a goal of greater story comprehension for all students.
References


Dewitz, P. K., & Dewitz, P. (2003). They can read the words, but they can’t understand: refining comprehension assessment: Comprehension problems can be difficult to detect and treat. Here are some suggestions for catching these problems and addressing students’ shortcomings. *The Reading Teacher, 56*, 422 – 436.


Appendix A
(This story face map has been revised for the purpose of this study.)

Story Face

Characters

Setting

Problem

Events:

1

2

3

Solution:
Appendix B

Students will answer the following questions developed by Keene and Zimmerman (cited in Goudvis & Harvey, 2000, p. 191) to determine their knowledge and use of visualization strategies. The use of these questions have been adapted and revised for this study. Student responses will be logged during the pre-test and post-test running reading records.

(Teacher will remove the book.)

1. Were there places in the story where you made a picture in your head?

2. What images or pictures did you see?

(Teacher will return the book to the student.)

3. What specific words helped you create that picture in your mind?

(Student may locate those words in the story.)