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Using technology and traditional instruction to teach expository text in the sixth grade reading classroom: A quasi-experimental study

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Field Based Research
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Dr. Carlson
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USING TECHNOLOGY AND TRADITIONAL INSTRUCTION TO TEACH

Introduction

Learning to read and write expository text is a huge transition for some elementary school students as they move toward higher grades. When students learn to read narratives from picture books in lower grade levels, some of them lean heavily on pictures and images to help them gain knowledge. Praquette (2007) explained how many of the misconceptions children have about factual information stems from televised cartoons and movies. Their constant exposure to these televised cartoons, animated settings, and fantasy characters are more believable to them than the realism of expository information. How can teachers make this transition easier for students? The researcher found numerous studies that explained effective strategies for helping students to make this transition successful with and without technology.

This study targeted sixth grade reading students during their reading connection class. This class is one of many exploratory classes that students transition from each semester in order to gain remediation to help them increase Criterion Reference Competency Test (CRCT) scores. The research goal is to determine if using a word processor to teach expository text will increase student learning more than traditional instruction.

The purpose of this study is to determine if students in an experimental group who are allowed to use a word processor to learn about reading and writing expository text will have a better understanding of the lesson than students in the control group who received the same instruction without technology, but within the same time frame and with scaffold learning activities for each group.
Review of Literature

Introduction

The literature review provides empirical research studies that have been conducted on teaching educational content such as expository text to students using traditional instruction methods compared to instruction implementing technology. According to Fang (2008), expository language is the medium through which knowledge is constructed in schools. He emphasized the importance of teachers going beyond teaching phonetic awareness, phonics, fluency, vocabulary, and comprehension by adding linguistic and background knowledge to their instruction in intermediate grades. The research study focuses on how to use technology or traditional instruction to increase student achievement.

Teaching Expository Text With Traditional Instruction

“Reading is a cognitive process that involves decoding at word, sentence and discourse level and also interacting with the text. These two aspects of the cognitive process of reading are also often called bottom-up and top-down processes, even though these are not accurate descriptions of the interactive nature of reading as a cognitive process” (Murray & McPherson, 2006, p.133). Malin (2010) stressed that in order to encourage students to become readers, they need to assume creative attitudes and literate behaviors of engaged readers. In order for students to reflect on a reading event, engaged readers need to decode, understand, and transact with the text to construct meaning. Traditional instruction is teacher-centered and students are expected to use a traditional textbook with additional resources, listen to teacher lectures, and take notes over the lectures using a pencil and paper.

Many of the studies focused on how best to teach students about expository text. According to Duke (2004), teachers can use four strategies to teach elementary, middle, and high
school students to comprehend informational texts. First, teachers should increase students’ access to expository text and the time students spend on working with these texts in instructional texts. Next, teachers should teach comprehension strategies and create opportunities for students to use expository text for authentic purposes. Effective reading comprehension strategies include: predicting, monitoring students’ progress and making adjustments as needed, activating and applying prior knowledge, and predicting. The researcher noted that teachers who read aloud to younger students are presenting them with the characteristics and conventions of expository texts and hands-on activities can increase students’ knowledge and skills in reading expository text as well.

Research conducted by Williams, Hall, Lauer, Stafford, Desisto, and deCani (2005) demonstrated that children in primary grades benefit from both systematic and focused comprehension instruction along with word recognition and fluency. The researchers investigated four types of expository text including description, enumeration, sequence and compare-contrast. In their study, they found that comprehension instruction is rarely addressed as important in the primary grade curriculum. If students are not adequately prepared in the early grades, they are not prepared for expository text that awaits them in the upper grades of school. Many times, the way text is written can help or hinder comprehension. They found that students must realize that comprehension varies as a function of the type of text structure that is represented. Text features help students to locate and organize information in text. Dymock (2005) found that teachers need to teach students that expository text has many structures and patterns and that using diagrams and graphs help students to better visualize relationships. He further indicated that children who understand text structures have fewer comprehension problems with expository text. Surber and Schroeder (2007) explained how headings in long
informational texts seem to improve recall of high importance information, and emphasized how headings were more effective for prior knowledge learners.

Williams, Hall, Lauer, Stafford, DeSisto, and DeCani (2004) conducted a study on second graders and investigated the effectiveness of an instructional program designed to teach compare-contrast expository texts. The researchers found that it is possible to teach children of this age about text structure so that the knowledge they gain improves their text comprehension using clue words, discussions on the topics, reading and analyzing of targeted paragraphs, and graphic organizers. Their findings indicated that as early as second grade, children can profit from systematic and focused comprehension instruction. They explained how children do not have extensive control of word recognition or fluency at this point, and they do not need to be deprived of basic instruction in comprehension that will help move them ahead. In a similar study, Read, Reutzel, and Fawson (2008) used high quality expository trade books to teach second graders about expository texts. Using three treatment conditions, the researchers found using templates, graphic organizers showing cause-effect, compare-contrast, and order sequence activities improved the second grade understanding of expository text. The researchers warned teachers not to assume that young children understand informational text when it is merely read aloud. Loo (2012) emphasized that teachers have the responsibility of helping students make connections between language arts and domain specific content in all subject areas.

Several of the studies focused on expository text in science textbooks. McTigue and Slough (2010) introduced their conception of text accessibility in science texts and used the concreteness of the text, the voice of the author, coherent writing structure, selective use of visual information, and integrated verbal and visual information as the major attributes proven to contribute to comprehension of science texts in the middle school environment. The authors
focused more on text accessibility instead of text readability in the study. They found that accessible texts contained information in concrete language, but noted the lack of abstract concepts which should be included in the science text as well as specific, supporting examples to help students understand the information. Comprehension is impossible for students to achieve if they are not cognitively engaged in reading the text. They conducted a study using middle school science students and stressed that students should have accessible science texts that use both visual and verbal information. The researchers claimed that it is important for teachers to teach design formats in science textbooks. They suggested that visuals help students to connect the content with the visuals. The visuals are used to gain students’ attention and engage them in the lesson. Teachers should use an accessible text which will display verbal and visual information in an integrated manner, both spatially and through the effective use of captions and labeling. The researchers found that notations within the running texts that make the readers aware of the graphics may help direct their attention to the graphics. Students must have the ability to find the main ideas and supporting details of paragraphs by synthesizing the facts, reasons, and examples within these paragraphs. Modified sentence-completion tasks provide students with frequent practice with vocabulary in the content, locating the main idea and supporting details, and identifying expository text structures. Teachers can select content-rich paragraphs of four to six sentences from a science textbook or other resources and an equal amount of extraneous sentences of equal numbers. As students read the paragraphs, they must identify the relevant sentences from those that are irrelevant by synthesizing the content. From these sentences, teachers can select relevant vocabulary for students to learn and understand. The words can be moved to a word bank where students complete fill-in-the-blank exercises such as with the correct vocabulary word which further helps students to identify main ideas and supporting
details. Students are able to logically place the sentences in a rewritten paragraph composed by the student. In order for them to understand these organizational patterns in paragraph form, students need to become familiar with structures

Soalt (2005) introduced primary and higher grade students in her study to fictional and expository text by using units of study which helped students explore expository texts prior to reading fictional text on the same topic activating background knowledge for students who did or did not have prior knowledge. Students who possessed some prior background knowledge were able to build on what they knew. Bringing fictional text and expository text together improved students’ comprehension. Vocabulary was improved when students were given the opportunity to study the units of study in multiple contexts. She discussed using picture books for grades three and up for teaching longer passages of expository text and explained that students’ comprehension, vocabulary, and motivation increased when using them as part of the activities in the unit studies. She recommended that teachers activate students’ background knowledge before reading new texts; however, they must also supply background knowledge to learners who are unfamiliar to certain topics. The results of this research indicated the strong relationship between background knowledge and comprehension

Dymock (2005) and Read, Reutzel, and Fawson (2008) found that by using templates and graphic organizers showing cause-effect, compare-contrast, and order sequence activities as excellent tools for students to use to help them to depict, understand, and remember text information. Graphic organizers allow students to place ordered sentences into logical order and assist them in rewriting paragraphs. Signal words and phrases are used to cue readers to the paragraph’s structure, thus helping students to recognize the paragraph’s intended purpose.
Scaffold activities provide students with practice using new word vocabulary, locating main ideas and supporting details, recognizing signal words and phrases, and identifying different text structures. Science teachers use textbooks and supplemental materials, media, and technology to help students meet new challenges. Modified sentence-completion tasks can be used as a way for teachers to integrate reading, writing, and vocabulary instruction of expository texts.

Theoretical Perspective

The concept of scaffolding is based on Vygotsky’s (1978) theory of learning which emphasizes that students be collaborative and driven by interaction. According to Vygotsky, learning takes place when children are challenged by a task beyond their current level of competence, but provided with task specific support by a more competent adult or peer. This gap between what the child can do unaided and can do with support Vygotsky called the zone of proximal development (ZPD). This theory indicates that scaffold assignments increase student achievement Gillen (2000).

Teaching Expository Text Using Technology

Sung, Chang, and Huang (2008) found that reading strategy instruction is effective for enhancing reading ability. The researchers found that some of the more widely recommended approaches of reading strategies included: determining the main messages as in summarization, using text enhancements such as illustrations, text structure representations, and mental images, question and answer drills like self-questioning, and meta-cognition such as comprehension monitoring. They reported that informational technology reduces the difficulties of implementing reading strategy instruction in classrooms.
Heider (2009) emphasized the need for teachers to help students become more effective information managers by providing instruction on how to analyze and synthesize information. The researcher stressed that students must be taught to be effective information managers due to the amount of increasing information they have to disseminate. According to Cummings & Stallmayer-Gerard (2011), students move from just recalling text facts toward finding the author’s big idea when they synthesize the compilation of facts in the text. With or without technology, synthesizing information in order to determine the main idea and supporting details is a skill that allows students to find the big idea of information read aloud or silently in narratives and expository texts. They conducted a study using explicit instructions on synthesizing, interactive read a-louds, and think-aloud mini-lessons as approaches to help students develop their abilities to articulate a synthesis of ideas from the expository text. Students worked in small groups and wrote a description of what was read along with a sketch which demonstrated whether they were able to find the big idea and elaborate on it. The researchers provided feedback to the groups on sticky notes with comments indicating if they had been successful in synthesizing the information and finding the big idea or if they had only restated the facts. Results indicated the majority of students were synthesizing while responding to the text independently.

The goal of Murray and McPherson’s (2006) study was to investigate whether explicit, scaffolding instruction when presented in smaller chunks assisted learners in reading the Web. They defined scaffolding as the explicit, task-specific instructional support provided by a teacher or more experienced peer so that a learner can complete a task. The hypertextuality of web pages allowed readers to choose their own path through the text, unlike print texts which are designed to be read sequentially. They further noted that past research has found that different strategies
must be used when text reading and Web reading are used even though they share similar characteristics. They determined that adult language learners who possess little prior knowledge must have scaffold instruction in order to read the Web and the same is true about students who have little prior knowledge to draw from in their acquisition of language. Language learners need reading activities that engage them in the use of the Web as they find their way around a website and navigate web pages in order to find and read information to achieve some other language goal. Learning activities that use scaffold instruction help students to master one concept before moving to the next.

Cobb (2010) found that students increased achievement when Internet-based reading software was used with participants in their study. In this study, the researcher found significant increases occurred in student achievement for students in a treatment group who used Internet-based software that differentiated instruction based on student needs and targeted outcomes. A typical Internet-based reading practice requires students to move to higher levels of comprehension tasks such as summarizing, paraphrasing, and making inferences. A similar study conducted by Castellani and Jeffs (2001) indicated that the Internet helped teachers implement authentic learning strategies in the classroom by allowing the learner to choose reading materials based on their own interests. Students’ self-esteem and motivation are increased when reading and writing strategies are blended with available technology.

Akhondi, Malayeri, and Samad (2011) added additional types of text structures in their study which also included problem-solution and cause-effect. Their research revealed that students’ reading comprehension skills improve when they acquire knowledge of text structural development using technology. The researchers found deficiencies in their research which
included the availability of computer access, instruction on the word processor, and the time allotted to students for instruction.

Kerr and Simons (2006) found that student achievement increased when students were presented with information by a computer than paper text. They explained that reading text for inferential comprehension is a higher-order skill than reading for factual retention and recall. They conducted a study with 60 fifth grade students and examined whether children’s reading rate, comprehension, and recall were affected by computer presentation of text. Students read two types of expository texts. One was printed in a traditional print format and the other was from a computer monitor which used a common scrolling text interface. The students were told to recall as much information as possible. Students recalled more of the text they had read on the computer than the paper text.

Welch (2010) conducted a study using ninth graders to determine factors that impede and impel struggling adolescents’ reading comprehension. She revealed that computer technology was used to boost reading comprehension skills for below level readers and to supplement the classroom reading activities using computer software and teacher-designed materials. She also emphasized that there are certain teacher responsibilities and certain student responsibilities that determine the success or failure of technology to teach reading. She further emphasized that teachers should not use computers as a replacement for silent reading, seatwork, and comprehension lessons. Students should be taught the basics of the lessons that they will manipulate on the computers before going to the computers.

A study by Montelongo and Herter (2010) demonstrated that technology encouraged improved comprehension of reading and writing in the science classroom, and students created more elaborate writing as technology motivated students’ curiosities as they accessed resources
and embellished their work. Science teachers integrated scaffolding exercises that improved the reading and writing of expository text and acquisition of new vocabulary. These exercises included: presenting the structures common in expository text and representing them in graphic organizers; giving students signals words or phrases to cue the reader to expository structures; and writing activities where students must locate the main idea and supporting details of the content. They found in their study that technology encouraged improved comprehension of reading and writing in the science classroom, and students created more elaborate writing as technology motivated students’ curiosities as they accessed resources and embellished their work. Science teachers can use scaffolding exercises with learning activities using text structures, signal or cue words and phrases, graphic organizers, fill-in-the-blank activities with word banks, and paragraph writing where synthesis is used to help students improve the reading and writing of expository text and the acquisition of new vocabulary. They felt that the science classroom was ideally suited for the exploration of interaction between authors’ ideas in written texts to the possibilities present in students’ imaginations. Teaching and learning scientific knowledge and competence begins with the ability to read and write. Science teaches students to go beyond the boundaries of text while guiding and grounding their comprehension of it. They saw how technology brings advantages to reading and writing in ways that can unlock its potential beyond the boundaries of text while guiding and grounding their comprehension of it. Modified sentence-completion tasks are strategies that can be implemented with technology. Technology gives students more options than pencil and paper activities when completing these types of sentences. Students are able to access online resources to define terms and search for relevant information. Students are able to simply copy and paste related sentences into graphic organizers and rearrange them until they are satisfied with their choices. Arranging sentences
logically is easier with technology as students practice different arrangements while they test out different main idea placements and order the supporting ideas within paragraphs of content by copying and pasting. Students are able to use the Internet to access science-related software, online sites, artwork, and music to their activities to help students strengthen their understanding and incorporate their imagination and creativity to individualize their work. Successful science programs include the instruction of reading and investigative skills. Science teachers can teach expository text by designing scaffold learning activities that teach students how to read and write expository text using Microsoft Word. Slough and McTigue (2010) found that unlike language arts teachers who favor narrative text, the science curriculum requires an understanding of communication and information. They found that science educators can be assisted by reading educators who can help them to more effectively integrate literacy skills that increase science learning.

Lawrence, McNeal, and Yildiz (2009) conducted a study with adolescents using a curriculum which implemented technology created for a summer program where sixth and seventh grade students were given two-hour sessions daily for three weeks working in groups and independently to create reader-response projects. The researchers were able to see the benefits of providing students with the opportunity to produce their own text when using technology. Their students were able to increase their understanding of communicating with texts and visuals, develop their writing by synthesizing expository text, and increase their knowledge of technology. When students connected reading, writing, visual, and technology literacy, they were given opportunities to write for wider audiences and to produce authentic texts such as online book reviews. Macaruso and Rodman (2011) concluded that when comparisons were made between the treatment classes and the control classes using computer-
assisted instruction (CAI) that with or without CAI, no significant differences were recognized between the two groups on pretest measures of early literacy skills; however, posttest scores revealed significantly greater gains for the treatment group than the control group in each study.

An interesting study conducted by Fries-Gaither (2010) discussed the Beyond Penguins and Polar Bears Project which was developed to demonstrate that an integrated approach can improve student achievement in science, as well as in reading comprehension, oral and written language. The project was created to bring Polar Regions closer to home for elementary teachers and students who are able to access an online magazine, or cyber-zine with the URL: http://beyondpenquins.nsdl.org. Each issue focused on themes connected to the science curriculum standards and Polar Regions. Web 2.0 tools were implemented within the project giving students options to be creative and construct their own learning. The project allowed teachers to provide students with high quality and engaging expository text. Significant positive changes in third graders’ attitudes toward science were observed by the teachers facilitating instruction. The researchers emphasized that similar instruction can be effective in higher grades and adult education.

The research demonstrated that technology can be implemented in the science classroom as well as in other content areas in order to provide students with instruction on expository text and ensure that students are able to analyze and synthesize information and increase their comprehension, vocabulary, and usage of expository text. Montelongo and Herter (2010) found that by using exercises that comprise modified sentence-completion tasks using technology, students are propelled into 21st Century learning. The researchers emphasized that technology should be taken more seriously and be a vital part of middle school literacy curriculums. The 21st century is quite different from the 20th century according to Brant and Bellanca (2010) in their
book called 21st Century Skills. They explained how the emergence of sophisticated information and communication technologies have made it necessary for students to be proficient in technology skills needed for work, citizenship, and self-actualization. The researcher will investigate if using technology or traditional instruction can increase student achievement.

Hypothesis

The researcher hypothesizes that students who use a Word Processor to learn about expository text in the reading classroom will demonstrate higher student achievement on an expository reading posttest than students who use traditional pencil and paper methods to learn.

Research Questions

Does using a Word Processor to teach expository text in the reading classroom increase students’ reading achievement as measured by an expository posttest when compared to traditional instruction?
Method

Introduction
To explore the effects of using technology to enhance the learning of expository text in a sixth grade classroom, a quasi-experimental design was used in the study. The participants included a total of thirty students. The independent variable was using technology or traditional modes of instruction. The dependent variable was reading achievement. At the beginning of the study, students took a pretest which was used as the covariate and a posttest at the end of instruction.

Research Design
The researcher used a quasi-experimental design procedure since the participants were assigned into groups by the school principal and counselor at the beginning of each academic year. In this quasi-experimental design, both the experimental group and the control group took a pretest and posttest, but only the experimental group received the treatment. It was the most appropriate design to choose since the researcher was providing a specific treatment to one group and withholding it from another and then determining how both groups scored on an outcome. A coin toss determined which group would receive the treatment. The maximum number of students in each group could only be fifteen as determined by the administration. The smaller classes are considered more conducive for remediation. The independent variable was using technology or traditional modes of instruction. The dependent variable was reading achievement.

Participants
Participants in the study attended a Title 1 school with 64% of its students receiving free and reduced meals. There were 514 girls and 510 boys enrolled in the school. Each student received a free breakfast and lunch according to a Federal Grant given to Georgia. There was a total enrollment of 1,024 students. Demographics of the school included 65% White, 17% African
American, 17% Hispanic, and 1% Asian. The researcher used sixth grade students in two connection reading classes for the participants in the research study. There were 13 females and 17 males participating in the study. The Reading Connection Class was part of a rotation that students transition to each semester. There are academic connections and others that include Art, Health, Technology and Physical Education. Students who needed extra help in a subject area were enrolled in that particular connection class. The experimental group included 2 Caucasian females, 3 Caucasian males, 4 Hispanic males, 1 Hispanic female, 4 African American females, and 1 African American male. The control group consisted of 3 Caucasian females, 2 Caucasian males, 3 Hispanic males, 2 Hispanic females, 1 African American female, and 4 African American males. Several of the participants were either students with special needs, English Language Learners (ELL), and/or have a current Response to Intervention (RTI) file for various reasons. The classes’ purpose was to instruct students on reading strategies and skills that would help them master the state standardized test.

Instrumentation

Both groups were given a pretest to determine if there were pre-existing differences between the groups. The pre/posttest found in Appendix C included 35 questions over expository text and was used to determine if the instruction demonstrated any differences in knowledge of the content lesson on expository text between groups. Questions 1-20 were taken from the California Department of Education (2009) STAR Test and included: Reading Comprehension Questions 1, 2, and 5; Literary Response and Analysis Question 3; Word Analysis, Fluency, and Systematic Vocabulary Development Question 3 and 9. The questions were listed under Grade Six: English-Language Arts and was on the basic performance level according to the descriptors found at: 

http://starsamplequestions.org/starRTQ/results.jsp?param=CSR10410.133&count=37. The
True/False questions 21-35 were teacher created. The test has been used by the researcher several times with previous students and it has proven to be reliable in the past. The assessment tool has test-retest reliability since it had produced stable and constant results. The scores from the first time it was administered to now correlate and show stability over time. A Cronbach Alpha test was completed by the researcher and the results demonstrated that the data was reliable from an internal consistency standpoint with the pretest score as .789 and the posttest score as .853. The test had construct validity because it measured what it purported to measure about expository text.

Procedures

First, permission to conduct the study was gained from the administrator. A letter (Appendix A) was given to the student requesting that they participate in the action research study and a letter (Appendix B) was sent to parents for their approval also. Both treatment and control groups were given a pretest (Appendix C) over expository text to determine if students had prior knowledge of expository text. Students in both groups were instructed using scaffold instruction, but the experimental group used Microsoft Word to complete activities over expository text using the following link: http://carteractionresearchproject.pbworks.com/w/page/68466701/FrontPage/

The control group used a more traditional paper and pencil method of instruction with handouts, the textbook, teacher lectures, and notes. Both groups were taught using the same instructional materials. Scaffolding was used for the learning activities. Scaffolding is when the instruction is delivered by breaking up the learning into small chunks and then providing a tool, or structure, with each chunk. Six strategies of scaffolding include: Show and Tell; Tap into Prior Knowledge; Give Time to Talk; Pre-teach Vocabulary; Use Visual Aid; and Pause, Ask Questions, Pause, Review. Students in both groups were provided with scaffold instruction on
how to read and write about expository text in the science classroom. The instruction was delivered in small chunks. The pretest was given on the first day of instruction. Next, participants were presented with a K-W-L chart in order to tap into their prior knowledge of expository text. A K-W-L chart is an instructional technique designed to help students construct meaning by looking at what the students know, what they want to know, and what they learned about a topic. During instruction, participants were asked to examine common expository text structures in Appendix D, graphic organizers representing the different text structures in Appendix E, identify expository signal words and phrases used for clues to help them identify which text structure was being used in Appendix F. Then, they completed fill-in-the-blank activities with word banks in Appendix G that enabled them to complete modified sentence completion tasks in order to determine the main idea and supporting details in Appendix H. Next, participants were presented with five factual sentences that were connected to the lesson and five extraneous sentences unrelated to the lesson requiring the students to differentiate between the correct and incorrect information using Appendix I. Students then rewrote the paragraphs with the correct factual sentences written in their own words using Appendix J. Since expository text mastery was a weakness for these students according to last year’s standardized test results, the researcher accomplished teaching the standard with expectations that all of the students would demonstrate increased comprehension of expository text. Students in both groups received 55 minutes of instruction each day over a three week period. Students were presented with different tables and graphs located in the Appendices D-J which helped to explain the main concepts involved in learning about expository text. Each day, students worked on scaffold activities to help assure their mastery of the material. At the end of the instruction, students were administered the posttest to determine which group, if either, increased their achievement from the pretest.
Data Analysis

A one-way between groups analysis of covariance (ANCOVA) was conducted to compare the effectiveness of using technology or traditional methods of instruction to increase student achievement on expository text.

Testing for violation of assumptions was completed prior to conducting the analysis of covariance to ensure there were no assumptions of linearity, homogeneity of regression slopes, and equality of variance. The influence on the covariate (pretest) can be seen as significant because the value .000 indicates there is a significant relationship between the covariate and the dependent variable. With a p value of .793 on Levene’s Test of Equality of Error Variances for the dependent variable, there was no violation of equality of variances as seen in Table 1.

Homogeneity of regression slopes was tested by analyzing the interaction between the group (independent variable) and the pre (covariate) on the posttest (dependent variable). The interaction was not significant implying that the assumption was appropriate.

Table 1

Levene’s Test of Equality of Error Variances

<table>
<thead>
<tr>
<th>Dependent Variable: posttest</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>.070</td>
<td>1</td>
<td>28</td>
<td>.793</td>
<td></td>
</tr>
</tbody>
</table>

The ANCOVA results in Table 2 labeled “Tests of Between-Subjects Effects” indicated that the results of the pretest and posttest are not significantly different. The results show a significance of .196 which is greater than .05 (the alpha level for significance) (F=1.756, sig .196). There was not a significant difference, since the value would need to be lower than .05. The pretest was used as the covariate and the pretest score was a significant predictor of the posttest score.
Table 2

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Means Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>5550.247</td>
<td>2</td>
<td>2775.124</td>
<td>24.739</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>920.016</td>
<td>1</td>
<td>920.016</td>
<td>8.202</td>
<td>.008</td>
</tr>
<tr>
<td>Pre</td>
<td>4409.414</td>
<td>1</td>
<td>4409.414</td>
<td>39.308</td>
<td>.000</td>
</tr>
<tr>
<td>Group</td>
<td>196.946</td>
<td>1</td>
<td>196.946</td>
<td>1.756</td>
<td>.196</td>
</tr>
<tr>
<td>Error</td>
<td>3028.720</td>
<td>27</td>
<td>112.175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>158251.000</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .647 (Adjusted R Squared = .621)

The adjusted means are shown in Table 3. With the means adjusted for the covariate (pre-test), the control group is 73.300 and the treatment group is 67.967 with a standard error of 2.791 for both groups.

Table 3

Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Control</td>
<td>73.300</td>
<td>2.791</td>
<td>67.573</td>
</tr>
<tr>
<td>Treatment</td>
<td>67.967</td>
<td>2.791</td>
<td>62.240</td>
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</table>

Discussion

Summary

This study centered on the hypothesis that students who use a Word Processor to learn about expository text in the reading classroom will demonstrate higher student achievement on an expository reading posttest than students who use a more traditional pencil and paper method to learn. The pretest over expository text was deployed to a control group and an experimental group. Three weeks of instruction on expository text was implemented with students in both groups. The control group received instruction through traditional methods and the experimental
group was instructed on expository text with the use of a Word Processor. At the end of three weeks, students in each group were administered the posttest. The results were reported and analyzed using the Windows version of the SPSS program. The findings indicate that the means adjusted for the covariate were higher in the control group, but the difference was not great enough to reach statistical significance. The hypothesis was not upheld through the findings of this study. The research question proposed at the beginning of the study was: Does using a Word Processor to teach expository text in the reading classroom increase students’ reading achievement as measured by an expository posttest more than traditional instruction? With no significant differences reported, this study failed to show that using technology increased student achievement. The two classes were created by the administration and the assignment of groups was determined by a coin toss giving all participants an equal chance of being placed in the treatment group. The effectiveness of the technology could also be in question since instruction was not introduced before treatment. These results were not consistent with the literature which supported the use of technology and reported that the implementation of effective technology increased student motivation, engagement, and achievement. The researcher found that students in the treatment group should have been instructed on the technology to be used before the study was initiated. The results implied that further research on the effectiveness of technology should be conducted using a larger sample group and a longer treatment time.

Implications

While the research results indicated that the implementation of technology to teach expository text was minimum, this researcher’s desire was that this study would spur other studies to be conducted to evaluate the effectiveness of implementing technology instruction. The researcher suggests that more research should be conducted using a longer treatment time and a larger
sample group to test the hypothesis. This could yield a significant difference in the results and support the hypothesis. As it stands, this study did not yield results that could be used to support the hypothesis.

Conclusion

Researchers such as Sung, et al. (2008) offered several reasons why technology implementation in the classroom could benefit students: technology provides students with immediate feedback based on their learning condition, allows students to control their own learning pace, gives students more opportunities to learn independently, and motivates students to read more using different media. As seen in this study, students in the treatment group received immediate feedback; students were allowed to control their own learning pace and were given the opportunity to learn independently. The treatment group was motivated to learn about the technology being implemented, but they did not display motivation to read more using different media. Furthermore, some literature suggests that technology may be an excellent tool for educators to use to help increase student achievement, engagement, and motivation when used effectively (Castellani & Jeffs, 2006; Kerr & Simons 2006; Murray & McPherson, 2006; Sung, Chang, & Huang, 2006; Lawrence, McNeil, & Yildiz, 2009; Montelongo & Herter, 2010; Fries-Gaither, 2010; Macaruso & Rodman, 2011; Akhondi, Malayeri, & Samad, 2011). The findings indicated that the means adjusted for the covariate were higher in the control group, but the difference was not great enough to reach statistical significance. While the results of the study did not support the hypothesis, there were several limitations that may have affected the findings of the study.
Limitations

While no significant difference was found, there were several limitations to this study that must be taken into consideration. A major limitation was that the experimental group did not receive instruction on the technology to be used before the treatment was administered. If instruction on the technology had occurred before the treatment, it is felt that this activity would have likely affected the results. Technical difficulties were a limitation when the computers froze up on the students causing them to have to move and start over again on another computer.
References


Greetings,

My name is Carol Carter and I am a graduate student at Georgia Southern University. I am preparing to conduct a study on the effectiveness of using technology to teach students about informational or expository text which has been a past weakness for middle school students on high-stakes tests.

I am asking for you to participate in an action research project I will be implementing which will determine the effectiveness of using technology to deliver instruction on expository text. If you agree to be a participant in the project, you will be asked to exhibit your best effort. You will be asked to participate in activities of the instructional unit. I will be conducting observations of the class as each of you complete assignments which are aligned with state standards. The entire project will take approximately two weeks.

It is not required for you to participate in this project, but I will provide a treat to thank you for participating in this project. At any time, you may stop your participation in the study, but grades will be given over the instruction regardless of participation to satisfy curriculum requirements.

No one will see any of your responses to the surveys, interviews, or tests. Responses from you will be given to me and sent to professors at Georgia Southern University, and only Dr. Chuck Hodges, Dr. Carlson or I will see your answers. You will be assigned a number so that I can identify you, but no one else will be able to determine whose work it is.
If you or your parent/guardian has any questions about this form or the project, please call me at 706-802-7486 or my advisor, Dr. Hodges, at chodges@georgiasouthern.edu. Thank you!

Please read over this form and sign your name on the line below if you agree to participate:

Yes, I will participate in this project: ____________________________

Child’s Name: ________________________________________________

Investigator’s Signature: ________________________________________

Date: ________________
Dear Parent or Guardian:

My name is Carol Carter and I will be asking your child’s reading connection teacher to help me conduct a study on using technology to teach expository text. The project has been approved by the administration. I am requesting your permission to allow your child to participate in an action research study to help me complete my Educational Specialist Degree from Georgia Southern University. I will be conducting a study in the class in the next few weeks. The purpose of the study is to determine if technology can be effective in increasing students’ understanding when instruction is delivered to them on expository or informational text. Participants in this research study will be asked to complete instructional activities and a pre/posttest over the information. This letter is to request your permission to allow your son or daughter to voluntarily participate in my research study. Their participation in the study is not required and no student will be penalized for not participating, but their participation will be appreciated.

The benefits to the participants include seeing if there is an increase in motivation in their learning and seeing if they retain the necessary information. The benefit to society is that the
students are learning intrinsic motivation that allows them to work independently and complete their work.

This research study will take place during the school day in their reading connection classroom and it will last for approximately three weeks. The instructional sessions will last about 55 minutes each day and the material is aligned with our curricular standards. Your child’s participation and name in this study will be kept strictly confidential.

Your child’s name will not appear on any of the information to ensure confidentiality; they will be assigned a number that I will use to identify them and their work and responses. All information pertaining to this study will be kept in a locked filing cabinet in an office at Georgia Southern University.

If you have any questions or concerns regarding this study at any time, please feel free to call me or email me: Carol Carter 706-802-7486 or cc03454@georgiasouthern.edu, or you may email my advisor Dr. Chuck Hodges at chodges@georgiasouthern.edu.

To contact the Office of Research Services and Sponsored Programs for answers to questions about the rights of research participants please email IRB@georgiasouthern.edu or call (912) 478-0843.

If you are granting your child permission to participate in the experiment, please sign the form below and return it to your child’s teacher as soon as possible.

Thank you very much for your time.

Carol Carter
Instructional Technology

Dr. Chuck Hodges
College of Education

Professor of Instructional Technology
Appendix C

Pre/Post Test

Sixth Grade

Expository Text Test

Read the following passages and answer the questions by selecting the correct answer on the answer sheet.

Student Name: ____________________________

Letter to the Editor

1. A debate is currently raging in our town. Should we allow the Odeon Triplex Cinema to be constructed at the Havenswood Shopping Center? There is just one large lot left to build on, and the theater would use up all of that space. Some people are thrilled at the idea of finally having our own movie theater in Havenswood. Others would rather travel ten miles north to the nearest theater in Gadway in order to keep our quiet town the way it is. They say it is enough to have Marvin’s Movie Video Rentals in the shopping center. As a Havenswood citizen and small-business owner, I would like to express my opinion on this issue.

2. There are certainly benefits to renting videos. For one thing, you can plan your own movie-watching schedule by renting and viewing movies when it is convenient for you. You can relax on your cozy couch, grab snacks from your kitchen, and take a break whenever you need one. You can also talk to friends or family members who are watching the movie with you without bothering any strangers seated nearby. In addition, it is a less expensive way to view a movie compared to going to a theater, especially if more than one person is watching the video.
3 On the other hand, seeing a movie in a theater is an experience all its own. For one thing, you can see the movie on a wide screen as the filmmaker intended. To be viewed on a television screen, a film must be changed in some way to make it smaller. One way is known as the “pan-and-scan” method, which involves removing some of the details in the picture. This results in an image that is not complete. The other way, called “letterboxing,” keeps the image the way it is on the big screen, with one annoying exception: because the big-screen version is wide, the same picture on a television screen must be long and narrow, with black strips above and below it.

4 Another issue is sound. The sound from a television, even when it’s attached to a home stereo system, cannot compare to the sound system in a movie theater. Your experience of a movie improves when you can clearly hear all of the sounds, loud and soft. Furthermore, at home, viewing companions often talk during a movie, which makes you miss out on what’s happening in the film.

5 Besides, having a movie theater will not mean that you can’t still go to Marvin’s and rent a movie! You will just have a choice that you didn’t have before. Isn’t it time for Havenswood residents to enjoy a little progress?

A Concerned Citizen
Answer the following questions by filling in the circle next to the correct answer:

1. Read this sentence from the editorial.

   There is just one large lot left to build on, and the theater would use up all of that space.

   In this sentence, the word lot means

   A. A great amount.
   B. A complete group.
   C. A section of land.
   D. A result of chance.

2. The author’s argument in Paragraph 2 that renting videos is “less expensive” than going to the movies would have been stronger if she had included

   A. A newspaper story on the expense of managing a theater.
   B. A quotation from a moviegoer regarding the cost of tickets.
   C. A chart comparing theater ticket prices to movie rental prices.
   D. A statement from the owner of the video store about his rental fees.

3. This statement would be made stronger by adding which of these sentences?

   A. After all, Marvin’s store stocks thousands of the latest video releases.
   B. After all, videos rented at the store do not have to be returned the same day.
   C. After all, the management at the store is friendly and helpful.
   D. After all, Marvin’s store occupies 2,000 square feet at the shopping center.
4. The author’s argument in Paragraph 2 that renting videos is “less expensive” than going to the movies would have been stronger if she had included

A. A newspaper story on the expense of managing a theater.
B. A quotation from a moviegoer regarding the cost of tickets.
C. A chart comparing theater ticket prices to movie rental prices.
D. A statement from the owner of the video store about his rental fees.

5. Which of the following sources would provide the best evidence to support the main idea in paragraph 3?

A. an editorial page about popular movies
B. a magazine about the history of moviemaking
C. a story about a famous filmmaker
D. a book about changing movies into videos

Spotted Cats

1 Several members of the cat family have spotted fur. Do you know the difference between a leopard, a jaguar, and a cheetah? From a distance they may appear somewhat similar. Examined at closer range, however, they are clearly different cats. They differ in various ways, including where they live, how big they are, how they move and hunt, and how their fur is marked.

2 Of all the big cats in the wild, the true leopard is bound across the largest area. Leopards live in much of Asia and Africa. A leopard grows to be from 3 to 6 feet long, with an added 3 feet of tail. Leopards are skilled climbers that can hunt monkeys in trees. They can also lie in wait and pounce on passing prey. When food sources are scarce, they might eat fruit, field mice, and large insects. Leopard spots are not actually solid spots; they are broken circles.
3 The jaguar is native to the Americas. Its natural range is from the southern United States to northern Argentina, with the largest concentration of jaguars being in Brazil and Central America. The beauty and power of the jaguar inspired worship among ancient peoples. It measures between 3 and 6 feet long without the tail, which adds another 1 ½ to 2 ½ feet. Possessing a large head and body, the jaguar has legs that are shorter and thicker than a leopard’s. Jaguars are excellent climbers and can also swim well. They dine on a variety of land, tree, and water creatures. Their fur can be a vivid yellow color or a rusty shade; their “spots” are called rosettes. Each rosette is large and black, consisting of a middle spot with a circle of spots around it.

4 Most cheetahs live in the wilds of Africa. There are also some in Iran and northwestern Afghanistan. The cheetah’s head is smaller than the leopard’s, and its body is longer. This cat is built for speed. Its legs are much longer than the leopard’s, allowing it to run at speeds of up to 70 miles per hour! This incredible ability helps the cheetahs catch their dinner, which is usually an unfortunate antelope. A cheetah’s spots are simply black spots, not rosettes or circles.

5 Other spotted cats include the smaller ocelot, mainly of Central and South America, and the lynx or bobcat, mainly of North America. What all of these cats have in common is that they are wild, powerful animals of tremendous grace and beauty.

6. Which of these is the best summary of this passage?

   A. All spotted cats are powerful, beautiful, and graceful.

   B. Spotted cats may look similar, but they are different in many ways.

   C. There are many different spotted cats in the world.

   D. Spotted cats in the wild hunt many different kinds of animals.
7. All of these are ways to tell the difference between spotted cats except

A. How big they are.

B. What their spots look like.

C. Where they live.

D. How beautiful they are.

More Than a Niece

1 Harriet Lane stood in the doorway of the State Dining Room. She watched as the florists carried their large flower arrangements. The flowers were all so beautiful that Harriet clapped her hands. “Thank you all for your hard work,” she said to the florists. “I’m sure the prince will be very impressed.” The florists left, and Harriet and her friend Miss Hetty were alone in the dining room.

2 “This is my favorite part of being Uncle’s hostess,” Harriet said. Then she thought again.

“Well, one of my favorite parts. To be honest, I love all the parts of being Uncle’s hostess here at the White House. I love planning the dinners and checking the guest rooms. I love showing visitors the gardens. I love making sure that all the prominent and distinguished people who come to visit the president are comfortable.”

3 Miss Hetty smiled. She had taken care of Harriet for a long time. Harriet had been only nine years old when her parents died. She went to live with her uncle, James Buchanan. Uncle James was an important man and was often away from home. He was not married, so he asked Miss Hetty to be his housekeeper and to care for Harriet when he was away. He wanted Harriet to have good manners and study hard in school. He also wanted her to be honest and truthful and always be ready to help others. As Harriet grew up, she and Miss Hetty became friends.
4 When Uncle James became the United States government’s representative in England, Harriet and Miss Hetty traveled there as well. Harriet became a friend of Queen Victoria and her family. Now that Uncle James was president, Harriet and Miss Hetty were with him in Washington, D.C. Harriet did many of the jobs that a First Lady, or wife of the president, would do, even though she was the president’s niece. This was to be the most important party she had planned. Queen Victoria’s son, the Prince of Wales, was visiting the United States. He was coming to dinner at the White House tonight! At the party, the prince and Harriet enjoyed talking about England and the people Harriet had met while she had lived there.

5 During the time she lived in Washington, Harriet did more than just plan parties. She worked hard to improve the lives of Native Americans all across the country. She also believed that there should be a national art museum in Washington.

6 Harriet’s Uncle James was president from 1857 to 1861. When his term of office was over, they both returned to their home in Pennsylvania. Harriet married Henry Elliot Johnson, and they had two sons. She and her husband collected artwork from all over the world. When she grew older, she gave her collection to the people of the United States. This collection was the basis for the National Gallery of Art in Washington, D.C. Harriet also started the first children’s hospital in the United States.

7 Harriet Lane is famous for being the only First Lady who was not married to a president. She did much more for our country than plan parties!
8. Where would this passage most likely be found?
   A. In a news magazine
   B. In a collection of autobiographies
   C. In a newspaper
   D. In a collection of biographies

9. Which part of the passage is most likely fictional?
   A. the description of the White House
   B. the trip Harriet and Miss Hetty took to England
   C. the conversation between Harriet and Miss Hetty
   D. the background information about Harriet’s childhood

10. The passage is mainly about Harriet’s
    A. Uncle James.
    B. Contributions to the United States.
    C. Love of flowers.
    D. Evening with the Prince of Wales.

11. Information in the passage supports the idea that Harriet’s family was
    A. Wealthy.
    B. Stubborn.
    C. Fun loving.
    D. Selfish.
12. **How did Harriet help her uncle?**

   A. She traveled everywhere with him.

   B. She was his housekeeper.

   C. She was his hostess.

   D. She helped him collect artwork.

**Document A**

**Volunteering**

Just like the animals we shelter, people are very special to us. The Animal Shelter of Sacramento County has 300 active volunteers and is always eager to add more. If you have a few hours each week and a love for dogs and cats, we at the shelter welcome your participation.

**Youth Volunteers**

The Animal Shelter of Sacramento County has volunteer opportunities for people of all ages. Children 10 years of age or older are allowed to participate in some of our programs as youth volunteers when accompanied by an adult. The adult can be a sibling, parent, or guardian 18 years of age or older. Volunteering is rewarding for a number of reasons. Youth volunteers learn responsibility as they serve the community. Volunteers are rewarded with the affection of our shelter animals. Volunteers learn about the needs of dogs and cats and how to care for those needs. **Youth Volunteer Qualifications** A youth volunteer must: care deeply about animals and their welfare complete an application form be at least 10 years of age and accompanied by an adult attend an orientation session **Youth Volunteer Opportunities**

Youth volunteers may fill the position of dog nuzzler, cat snuggler, or kennel aide, provided there are openings. Please call our volunteer information hotline at 1-800-290-5992 to hear a recording of the positions currently available.
Dog Nuzzlers

Dogs need human interaction and exercise to maintain their health and level of comfort around people. Dog nuzzlers walk and groom the dogs staying at the shelter. Dog nuzzlers must be knowledgeable about dogs and able to handle medium-sized to large-sized breeds like collies and Labrador retrievers. Youth volunteer dog nuzzlers must be able to work at least two hours between 9 A.M. and 5 P.M. on either Saturdays or Sundays.

Cat Snugglers

Help our kittens and cats maintain their cuddly qualities by giving them lots of attention. Cat snugglers must be knowledgeable about cats and their needs. Youth volunteer cat snugglers must be able to work at least two hours between 9 A.M. and 5 P.M. on either Saturdays or Sundays.

Kennel Aides

Providing food and water for the animals at the shelter is a demanding job. Kennel aides assist the Animal Shelter staff in feeding the animals in our care. Kennel aides must be able to work at least two hours between 9 A.M. and 5 P.M. on either Saturdays or Sundays.

13. Which 10-year-old child best meets the qualifications to be a youth volunteer at the Animal Shelter?

A. Matt, who is allergic to animal fur

B. Katie, who likes dogs but does not have an adult sponsor

C. Bryan, who can work with either cats or dogs on weekday afternoons

D. Amber, who wants to work with cats on Sunday afternoons
Read the following passage:

I, _______________________________, the parent or legal guardian of __________ ____________________________, hereby gives permission for my child to participate as a youth volunteer with the Animal Shelter of Sacramento County. I authorize Animal Shelter staff to seek immediate medical treatment in case of an accident by using the emergency contact information below.

14. The phrase give permission and the word authorize suggest that the parent or legal guardian is able

A. To serve as an adult volunteer.

B. To give first aid to an injured youth.

C. To work as a kennel aide.

D. To grant power to others.

15. Which detail from Document A emphasizes the personal benefits of being a youth volunteer at the Animal Shelter?

A. The Animal Shelter of Sacramento County has volunteer opportunities for people of all ages.

B. Children 10 years of age or older are allowed to participate in some of our programs as youth volunteers when accompanied by an adult.

C. Youth volunteers learn responsibility as they serve the community.

D. Cat snugglers must be knowledgeable about cats and their needs.
16. Which source would provide the most information about grooming dogs?

A. A book detailing the care of dogs
B. A pamphlet about dog kennels
C. A magazine article about the positive effects of owning a dog
D. A chart showing the sizes of various breeds of dogs

17. The author implies that large-sized dogs

A. Are less comfortable around people.
B. Are more difficult to handle.
C. Need more human interaction.
D. Respond better to youth volunteers.

18. The phrase give permission and the word authorize suggest that the parent or legal guardian is able

A. To serve as an adult volunteer.
B. To give first aid to an injured youth.
C. To work as a kennel aide.
D. To grant power to others.

19. Which source would provide the most information about grooming dogs?

A. A book detailing the care of dogs
B. A pamphlet about dog kennels
C. A magazine article about the positive effects of owning a dog
D. A chart showing the sizes of various breeds of dogs
20. Which of the following are seen in expository text?
   A. Cause-Effect
   B. Compare-Contrast
   C. Sequence
   D. All of the above

True-False Section: Select the correct answer on the answer sheet.

21. Is it true or false that expository text usually contains facts?
   A. True
   B. False

22. Expository text is a type of writing where the author’s purpose is to write a conclusion.
   A. True
   B. False

23. The words underneath pictures, diagrams, or graphs are known as captions.
   A. True
   B. False

24. The bold-faced words are not meaningful to the text I am reading.
   A. True
   B. False
25. I can usually determine the topic of a section of text by looking at the subheadings.
   A. True
   B. False

26. Before I read the expository text, I should look at all pictures, diagrams, charts, tables, sub-titles, and bold-faced words.
   A. True
   B. False

27. It is important to analyze the text before reading it word for word.
   A. True
   B. False

28. Is a recipe an example of expository text?
   A. True
   B. False

29. Is a mystery novel considered to be expository text?
   A. True
   B. False

30. Do news magazines contain expository text?
   A. True
   B. False

31. Are graphs, charts, and tables considered to be expository features?
   A. True
   B. False
32. Graphic organizers are not used in expository text?
   A. True
   B. False

33. Headings and sub-headings in expository text are helpful to the reader.
   A. True
   B. False

34. It is important for students to know the difference between a fact and an opinion.
   A. True
   B. False

35. Expository text contains signal and cue words to help guide students through passages.
   A. True
   B. False
### Appendix D

**Most Common Types of Expository Paragraphs in Expository Text**

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem-Solution</td>
<td>The runner ran for 25 miles and started feeling nauseated and dizzy, thus having to stop the race. After he was replenished with fluids, he was able to return to the race.</td>
</tr>
<tr>
<td>Compare-Contrast</td>
<td>Mammals and reptiles are all a part of the animal kingdom and many people own mammals and reptiles as pets. However, mammals are warm-blooded and reptiles are cold-blooded animals. Mammals also have hair or fur and reptiles have skin that is slimy and smooth.</td>
</tr>
<tr>
<td>Cause-Effect</td>
<td>If people do not eat healthy and exercise, you can become obese and acquire certain diseases such as diabetes.</td>
</tr>
<tr>
<td>Generalization</td>
<td>All gifted kids do well on the CRCT.</td>
</tr>
</tbody>
</table>
Appendix E

Graphic Organizer for Comparing and Contrasting Expository Text

Main Idea

Supporting Detail 1
   Subject 1

Supporting Detail 2
   Subject 1

Supporting Detail 1
   Subject 2

Supporting Detail 2
   Subject 2

Graphic Organizer Used to Teach Cause-Effect

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Freezing water</td>
<td>Ice</td>
</tr>
<tr>
<td>Texting while driving</td>
<td>Automobile accident</td>
</tr>
<tr>
<td>Failure</td>
<td>Not studying for a test</td>
</tr>
</tbody>
</table>
## Graphic Organizer for Teaching Problem-Solution

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dehydration</td>
<td>Drink more fluids</td>
</tr>
<tr>
<td>Pollution</td>
<td>Recycling</td>
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</table>
Appendix F

Expository Signal Words and Phrases

<table>
<thead>
<tr>
<th>Problem-Solving</th>
<th>Cause-Effect</th>
<th>Generalization</th>
<th>Compare-Contrast</th>
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<tr>
<td>Problem</td>
<td>Because</td>
<td>for example</td>
<td>like</td>
</tr>
<tr>
<td>Answer</td>
<td>Since</td>
<td>to illustrate</td>
<td>similar</td>
</tr>
<tr>
<td>Solution</td>
<td>Consequently</td>
<td>for instance</td>
<td>however</td>
</tr>
<tr>
<td>Response</td>
<td>Thus</td>
<td>to begin with</td>
<td>on the other hand</td>
</tr>
</tbody>
</table>

Appendix G

Fill-in-the-blanks


Sentence Completion Task

Directions: Fill in the blanks with the word which best completes the sentences.

Name ________________________________________________

1. When a lighted match is applied to paper, combustion __________.

2. The students drank water during their morning __________ period.

3. Farmers plant the seeds, ensure their growth, harvest the crops, and prepare the soil for the __________ to be again.

4. There are four _____ of growth in the development of the butterfly.

5. The fireman _____ the flames with water from the fire hydrant.

6. First, the stove’s heat _____ the water in the kettle to warm.

7. A football game consists of four _____ quarters.

8. The banker’s fortune evaporated into thin air when the stock market_____.

9. We made snow cones from frozen ice and a (n) _____ of syrups.

10. While in the air, the water vapor gets cold and clouds are _____.

Appendix H

Fill-in-the-blanks.

Modified-Sentence Completion Tasks with Related sentences in boldface.

Directions: Separate the related sentences form the unrelated sentences.

Name _________________________________

<table>
<thead>
<tr>
<th>assortment</th>
<th>causes</th>
<th>collapsed</th>
<th>cycle</th>
<th>discrete</th>
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</thead>
<tbody>
<tr>
<td>doused</td>
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<td>formed</td>
<td>high</td>
<td>occurs</td>
</tr>
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<td></td>
<td>recess</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>stages</td>
</tr>
</tbody>
</table>

1. **When the water in the clouds gets too heavy for the air to hold, rain occurs.**
2. The students drank water during their morning recess period.
3. **The rainwater returns to the rivers and oceans and the cycle is ready to begin again.**
4. There are four stages of growth in the development of the butterfly.
5. The fireman doused the flames with water from the fire hydrant.
6. **First, the Sun’s heat causes water from the rivers and oceans to evaporate into the air.**
7. **The water cycle consists of four discrete stages.**
8. The banker’s fortune evaporated into thin air when the stock market collapsed.
9. We made snow cones from frozen ice and an assortment of syrups.
10. **While in the air, the water vapor gets cold and clouds are formed.**
Appendix I

Directions: Arrange the following sentences in a logical order:

1. First, the Sun’s heat causes water from the rivers and oceans to evaporate into the air.

2. The rainwater returns to the rivers and oceans and the cycle is ready to begin again.

3. While in the air, the water vapor gets cold and clouds are formed.

4. The water cycle consists of four discrete stages.

5. When the water in the clouds gets too heavy for the air to hold, rain occurs.

1. ____________________________________________________________

2. ____________________________________________________________

3. ____________________________________________________________

4. ____________________________________________________________

5. ____________________________________________________________
Appendix J

Graphic Organizer for Making Generalizations

Place all the related sentences from Appendix I here

Order the sentences in the graphic organizer

- Main Idea
- Supporting Detail 1
- Supporting Detail 2
- Supporting Detail 3
Write a paragraph in your own words