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# The Effects of Expository Text Structure Instruction on the Reading Outcomes of 4th and 5th Graders Experiencing Reading Difficulties

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THE EFFECTS OF EXPOSITORY TEXT STRUCTURE INSTRUCTION  
ON THE READING OUTCOMES OF 4<sup>TH</sup> AND 5<sup>TH</sup> GRADERS  
EXPERIENCING READING DIFFICULTIES

by

Janet J. Bohaty

A DISSERTATION

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ON THE READING OUTCOMES OF 4<sup>TH</sup> AND 5<sup>TH</sup> GRADERS  
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Janet Josephine Bohaty, Ph.D.

University of Nebraska, 2015

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The purpose of this study was to assess the effects of a standard protocol supplemental expository text structure intervention (i.e., Structures) on 45 4<sup>th</sup> and 5<sup>th</sup> graders experiencing reading difficulties. Students were enrolled in six K-8 parochial schools located in a Midwestern suburban city. Within classrooms, students were randomly assigned to Structures intervention or a business-as-usual control condition. Students in the Structures condition were taught to identify and discriminate among the five text structures used by authors of expository text (Meyer, 1975, 1985): description, sequence, cause/effect, compare/contrast, and problem/solution. Students in the business-as-usual control condition participated in the same activities or instruction provided by their respective classroom teachers. At post-test, experimental students ( $n = 24$ ) significantly outperformed control students ( $n = 21$ ) on a proximal (i.e., linked directly with the instructional focus of the intervention) researcher-created measure assessing the ability of students to identify text structures ( $d = 0.94$ ). Experimental students did not significantly outperform controls on a distal (i.e., not linked directly with the instructional focus of the intervention) researcher-created measure assessing expository reading comprehension ( $d = 0.14$ ) or on a delayed distal norm-referenced measure of expository reading

comprehension ( $d = -0.11$ ). The results, practical implications, and limitations are discussed.

## DEDICATION

To my family

## ACKNOWLEDGEMENTS

This dissertation reflects the support of many individuals. I would like to recognize their efforts and extend my sincere gratitude to each.

To Dr. Ron Nelson, my major advisor and co-author of the Structures program, I offer my admiration and my gratitude. Ron has perceptively guided this project, lending his skill and enthusiasm throughout the research process. Thank you, Ron, for your vision and patience.

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## **CHAPTER ONE**

### **INTRODUCTION**

The skills needed to read and comprehend expository or informational text are different than those needed to read and comprehend narrative text (Meyer, 1975).

Authors of narrative text use a familiar structure involving characters, a setting, a problem and resolution of the problem (Ray & Meyer, 2011). In contrast, authors of expository text use multiple text structures, may switch abruptly from one text structure to the next or even embed one text structure within another text structure, increasing the complexity of the text (Englert & Hiebert, 1984). Furthermore, expository text is often about unfamiliar concepts, requires students to create inferences, use prior knowledge, and reason, increasing cognitive load (Armbruster, 1988; Ray & Meyer, 2011; van Dijk & Kintsch, 1983).

Students who struggle with reading comprehension have particular trouble when reading expository text (Duke, Pearson, Strachan, & Billman, 2011; Sáenz & Fuchs, 2002; Taylor & Williams, 1983). Researchers suggest teaching expository text structures to students experiencing reading difficulties, particularly younger readers, may improve reading comprehension (Englert & Hiebert, 1984; McGee, 1982; Meyer, Brandt, & Bluth, 1980; Ray & Meyer, 2011; Taylor, 1980). Meyer (1975, 1985) identified and described five primary text structures: description, sequence, compare/contrast, cause/effect, and problem/solution. Authors of expository text use description to tell about something, sequence to tell about the order things happen, compare/contrast to make a connection between two things by telling the similarities and differences, cause/effect to tell how an event leads to an outcome, and problem/solution to tell how a problem might be solved.

These expository text structures are commonly used by researchers assessing the effects of text structure instruction (e.g., Englert, Raphael, Anthony, Anderson, & Stevens, 1991; Hall, Sabey, & McClellan, 2005; Meyer et al., 2002).

To date, it appears that only six expository text structure intervention efficacy studies have been conducted with students experiencing reading difficulties. These studies have been conducted with high school students (Russell, 2005; Smith & Friend, 1986), middle school students (Bakken, Mastropieri, & Scruggs, 1997; Wilkins, 2007) and elementary students (McLaughlin, 1990; Ocasio, 2006). It is surprising that only two studies have been conducted with elementary aged students experiencing reading difficulties because expository text structure instruction may be more beneficial to students if taught in elementary school to help prepare them for the increasing need to comprehend informational text (Meyer et al., 1980; Snow, Burns, & Griffin, 1998).

A review of these six studies indicated three areas of concern. First, the criteria used to determine which students were eligible for inclusion in the studies were not clearly defined. Defining inclusion and exclusion criteria is important to understanding the external validity of the studies. Clear inclusion and exclusion criteria allow researchers to understand the population(s) of students that expository text structure instruction is effective for and replicate previous research. Furthermore, well-defined study samples allow educators to match effective interventions with the specific needs of their students. Second, researchers of the two studies conducted with elementary-aged students did not assess the effects of comprehensive text structure instruction (i.e., instruction in five of the expository text structures) used by authors. This is problematic because the results of a recent meta-analysis suggest that it may be more efficacious to

teach students experiencing reading difficulties the full array of expository text structures used by authors (Hebert, Bohaty, Nelson & Brown, 2015). Third, researchers of all six studies used only proximal, researcher-created measures aligned directly with the intervention effects assessed. They did not assess treatment effects using distal, norm-referenced measures. This is problematic because using both proximal and distal measures is an important indicator of the quality of the study outcomes (Gersten et al., 2005).

### **Statement of the Problem**

Although elementary-aged students experiencing reading difficulties are likely to benefit from expository text structure instruction, only two studies have been conducted to date. Additionally, researchers have not assessed the proximal and distal effects of teaching all five expository text structures on this population of students. The problem, then was that little is known about the effects of comprehensive text structure instruction on the proximal and distal reading outcomes of elementary-aged students experiencing reading difficulties.

### **Purpose and Research Questions**

The purpose of this study was to assess the effectiveness of a standard protocol intervention, called Structures, on elementary-aged students experiencing reading difficulties. The study was designed to examine the first module of a three-module intervention. Module 1 was designed to teach students how to identify and discriminate among five text structures. Modules 2 & 3 were designed to teach students how to take notes on important information related to the text structures and write analyses and

interpretations of expository text, respectively. Modules 2 & 3 were not used in this study.

Structures Module 1 uses discrimination training and explicit instruction techniques to help students understand the differences between the text structures. Teachers introduce each text structure with a definition and examples then model how to discriminate among the structures. Students are given guided and independent practice opportunities throughout the program.

I examined the effectiveness of Structures Module 1 on the text structure identification and comprehension of elementary-aged (i.e., 4<sup>th</sup> and 5<sup>th</sup> grade) students experiencing reading difficulties. The three guiding research questions for the study included:

1. What are the proximal effects (i.e., linked directly with the instructional focus of the intervention) of Structures on the ability of students to identify expository text structures compared to those in the business-as-usual control condition?
2. What are the distal effects (i.e., researcher-created measure of reading comprehension not linked directly with the instructional focus of the intervention) of Structures on the ability of students to comprehend expository text representing multiple text structures compared to those in the business-as-usual control condition?
3. What are the delayed distal effects (i.e., norm-referenced measure of reading comprehension not linked directly with the instructional focus of the intervention) of Structures on the ability of students to comprehend expository text compared to those in the business-as-usual control condition?

I included the proximal measure of text structure identification because it directly related to the skills taught during the module. I hypothesized that the experimental students would outperform the control students on this measure.

The distal measures of comprehension were included to examine whether the effects of instruction in text structure identification would transfer to expository reading comprehension. The specific measures are described in the Method section. I hypothesized that experimental group students would outperform students on the researcher-created measure of comprehension, as the reading task required by the measure was similar to the reading tasks completed in the intervention. Although students were not working specifically on comprehension, I expected some carryover effects, as students' understanding of text structures may have led them to a stronger understanding of texts written using those structures. On the other hand, I did not expect statistically significant differences between the groups on the norm-referenced measure of expository reading comprehension, as it is more difficult to produce changes on norm-referenced measures (Lipsey et al., 2012), and this was a relatively short intervention.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

In this chapter an overview of the results of a recent meta-analysis examining the efficacy research on the effects of expository text structure instruction on reading comprehension related to the present study are presented first (Hebert et al., 2015). Following this overview, the efficacy studies conducted with students experiencing reading difficulties are reviewed. These studies are directly linked to the present study. The review of these efficacy studies is followed by a discussion of how the proposed study builds on and extends previous efficacy studies conducted with students experiencing reading difficulties and the associated research questions.

#### **Overview of Meta-Analysis**

A recent meta-analysis was conducted of the 44 text structure efficacy studies conducted with school-age students (Hebert et al., 2015). These studies met the following inclusion criteria:

1. The researchers provided empirical evidence relevant to the research.
2. The report was published in English.
3. An experimental, quasi-experimental, or counterbalanced design was employed.
4. The study was conducted with school-age participants in grades 1 through 12.
5. Students in the treatment group received instruction in one or more of five expository text structures identified by Meyer (1985): description, sequence, compare/contrast, cause/effect, and problem/solution.
6. An expository reading comprehension outcome measure was included.

Of the 44 studies, researchers of 20 and 24 studies used experimental designs or



quasi-experimental research designs, respectively. Twenty-one of the studies were published papers while twenty-three were unpublished dissertations, conference papers and technical reports. A total of 9,104 students served as participants in the 44 studies. Note that few researchers reported information on student characteristics (e.g., gender, ethnicity). Of these 9,104 participants, a total of 298 students experiencing reading difficulties served as participants in six studies. Ninety-four of these students were in high school (Russell, 2005; Smith & Friend, 1986), 81 were in middle school (Bakken, et al., 1997; Wilkins, 2007), and 123 were in elementary school (McLaughlin, 1990; Ocasio, 2006).

Results of the meta-analysis revealed three important findings directly linked to the proposed study. First, the obtained overall average weighted effect size of .57 ( $CI = 0.39, 0.76$ ) indicates that expository text structure instruction improves student reading comprehension. Furthermore, results indicate that this instruction appears to improve the reading comprehension of students experiencing reading difficulties. The average weighted effect size for this population of students was 0.96 ( $CI = 0.44, 1.47$ ) indicating text structure instruction has a large effect for this population of students. However, there was a great deal of variability in the obtained study level effects for the six studies conducted with students experiencing reading difficulties (see Studies Conducted with Students Experiencing Reading Difficulties section). For example, the obtained effect sizes for the studies conducted by McLaughlin (1990) and Ocasio (2006) conducted with elementary-aged students were 0.11 and 2.81, respectively.

Second, there is evidence that the comprehensiveness of the text structure instruction provided to students affects the strength of the treatment outcomes.

Researchers of the 44 studies reviewed in the meta-analysis taught students one ( $n=13$ ), two ( $n=15$ ), three ( $n=4$ ), four ( $n=5$ ) or five ( $n=7$ ) text structures. The results from the meta-analysis of expository text structure instruction indicated an expected 0.13 standard deviation increase for each text structure taught after the first one. This suggests that students may benefit more from comprehensive expository text structure instruction. A brief descriptive analysis of the type of text structures taught revealed the most commonly taught text structure was compare/contrast ( $n=33$ ), followed by simple description ( $n=21$ ), cause/effect ( $n=20$ ), problem solution ( $n=18$ ), and sequence ( $n=16$ ).

Third, a majority of researchers did not assess treatment effects using both proximal (i.e., researcher-created measures linked directly with the instructional focus of the intervention) and distal (i.e., norm-referenced measures not aligned directly with the intervention effects) measures of reading comprehension. Researchers of 37 of the 44 studies used only proximal measures of reading comprehension; whereas, researchers of five studies used only distal measures of reading comprehension. Researchers of the remaining two studies used both proximal and distal measures of reading comprehension (Wijekumar, Meyer & Lei, 2012; Wijekumar et al., 2014). The average weighted effect sizes varied for the proximal and distal measures of reading comprehension. The average weighted effect sizes for the proximal and distal measures were 0.57 and 0.13, respectively. This suggests that treatment effects are less pronounced when distal measures of reading comprehension are used to assess the effects of expository text structure instruction.

### **Description of Studies Conducted with Students Experiencing Reading Difficulties**

Researchers of six studies assessed the effects of expository text structure instruction with students experiencing reading difficulties. These studies were conducted with students at the high-, middle-, and elementary-school levels. The review of each study focused on three aspects related to the present study. The first aspect centered on the inclusion criteria used to select research samples experiencing reading difficulties. This information enables a clearer understanding of the population(s) of students at risk for reading difficulties the research samples can be generalized to. Students at risk for reading difficulties who have participated in text structure instruction research may have specific characteristics important for researchers to know to guide future investigations.

The second aspect of the studies focused on the text structure instruction provided to students experiencing reading difficulties. Specifically, the text structures taught, the number and length of training sessions, and the scope and sequence of instruction (i.e., the sequence in which text structures were taught and primary instructional elements used to teach the text structures such as signal words, graphic organizers, and writing) were reviewed.

The final aspect reviewed centered on the comprehensiveness of the measurement approach and associated treatment outcomes. Comprehensive measurement would include both proximal and distal outcome measures.

**High school.** Russell (2005) investigated the effects of teaching text structures with 9<sup>th</sup> grade students experiencing reading difficulties. A two-step process was used to identify students eligible for inclusion in the study. At the first step, the district's testing coordinator identified eighth grade students who were ineligible for the state reading assessment (i.e., these students completed the State Functional Reading Inventory in lieu

of the state reading assessment) or below grade level on the state reading assessment. A total of 60 students were identified by the testing coordinator. No specific information was provided regarding the criteria used to determine students ineligible for the state reading assessment or the extent to which students were below grade level on the state reading assessment. At the second step of the screening process, researchers administered the Qualitative Reading Inventory-3 (QRI-3; Leslie & Caldwell, 2001) to the 60 students identified in the first step of the screening process. Students reading one or more years below grade level as determined by the QRI-3 were eligible to participate in the study. The QRI-3 provided information on the student reading levels (i.e., independent, instructional, frustration), reading strengths and needs, and growth and change in reading levels over time. The specific criteria used to determine that students were one or more years below grade level were not identified. Although the QRI-3 generates reading levels, they are not directly linked to specific grade levels. Fifty-six of the 60 students identified at the first step met the eligibility criteria. Sixteen of the 56 students dropped out prior to the start of the intervention period. Thus, 40 9<sup>th</sup> grade students who met the inclusion criteria participated in the study.

Students were taught the description, compare/contrast, sequence, and cause/effect text structures. Instruction occurred across 45 consecutive instructional sessions. No information was provided on the length of the sessions. A general scope and sequence of instruction included a three-phase process of “challenging task in appropriate text” (Russell, 2005, p. 38). Students in the treatment and control groups participated in the first two phases of the process. In the first phase, students re-read previously studied texts. In the second phase, students practiced pre-reading and during-reading strategies

and word study skills. In the third phase, students in the treatment group learned strategies for identifying and using text structures. The major instructional elements included analyzing the structure of text using graphic organizers and writing brief summaries of passages. No specific information was provided about how to use graphic-organizer or summary-writing instruction. The description of the intervention materials and text structure instruction was not detailed and would not enable replication of the study.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with a researcher-created proximal oral retell measure based on passages obtained from the Qualitative Reading Inventory – 3 (QRI-3) administered at pre-test and post-test. Students read passages of increasing difficulty until they scored in the frustration range as determined by the number of miscues. Students were then asked to tell everything they could remember about the passage. Passages were scored according to the complete representation of the main idea. Inter-rater agreement on 52% of protocols was 99%. The effect size for the researcher-created measure of expository comprehension was 1.96. A standardized measure of comprehension was not used.

Smith and Friend (1986) investigated the effects of teaching text structures with 9<sup>th</sup> – 12<sup>th</sup> grade students with learning disabilities (LD) who were experiencing reading difficulties. Students were eligible for inclusion in the study if their grade level score on the Wide Range Reading Test (Wilkinson & Robertson, 2006) was 4.0 or higher. No information was provided regarding the basis of this score (e.g., composite or subtest, decoding or comprehension). The researchers reported that this criterion was used to

ensure students reading abilities matched the grade level content of the intervention materials. A total of 88 students with LD met the inclusion criteria. Researchers dropped 34 of the 88 students because they were not present for all training and testing sessions. Thus, 54 9<sup>th</sup>-12<sup>th</sup> grade students who met the inclusion criteria participated in the study.

Students were taught the description, compare/contrast, sequence, cause/effect and problem/solution text structures. Instruction occurred across four 50-minute consecutive instructional sessions. The scope and sequence of instruction across the four lessons was as follows. On day 1, teachers explained the purpose of the instruction and the difference between content and structure. On day 2, students were introduced to sequence, problem/solution, and compare/contrast text structures. On day 3, students reviewed previously learned material and were introduced to description and cause/effect text structures. Students also learned a 7-step strategy for using text structures in content area textbooks. Note that the researchers did not provide a description of the seven-step text structure strategy. On day 4, students reviewed previously learned material and used the newly learned strategies while reading passages from the district social studies textbook. The major instructional element included practicing identifying signal words that cued the structure of the text. No specific information was provided about signal-word instruction. Instructional materials included scripted teacher protocols, supportive transparencies, and five student activity packets.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with a researcher-created, proximal, free recall measure administered at pre-test, post-test, and delayed post-test. Three free recall passages were written at ninth and tenth grade reading levels

(Dale-Chall, 1948). One passage was used for each testing period (i.e., pre-test post-test and delayed post-test). Passages contained 199, 150, and 128 idea units, respectively. Students read a passage then wrote all they could remember. Free recalls were scored using Meyer's discourse analysis procedures (Meyer, 1975). Intra-rater reliability on a 10% random sample of protocols was .87 and .84 for the post-test and delayed post-test, respectively. No reliability information was provided for the pre-test. The effect size for the researcher-created measure of expository comprehension was .96.

**Middle school.** Bakken and colleagues (1997) investigated the effects of teaching text structures with 8<sup>th</sup> grade students with LD who were experiencing reading difficulties. The students with LD were eligible for inclusion in the study if they: 1) were identified by special education teachers as having reading comprehension difficulties; 2) were unfamiliar with intervention content (i.e., expository text structures) as identified by classroom teachers; and 3) had IQ's greater than 85. Students' IQ's were determined by the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974) or the Wechsler Intelligence Scale for Children-Third Edition (Wechsler, 1991). The researchers did not specify the criteria used by teachers to determine that students were experiencing reading comprehension difficulties or that students were unfamiliar with the intervention content. Thus, 54 8<sup>th</sup> grade students with LD who met the inclusion criteria participated in the study.

Students were taught the description, and sequence text structures. Students were individually instructed across three 30-minute, consecutive instructional sessions. The scope and sequence of instruction was as follows. On day 1, students learned why text structures were important and the utility of the text structure strategy. On day 2, teachers

explained a two-step strategy for identifying the description text structure and students practiced using the strategy. On day 3, teachers explained a two-step strategy for identifying the sequence text structure and students practiced using the strategy. The major instructional element included teaching signal words associated with each of the text structures. No specific information was provided about signal-word instruction. Instructional materials included implementation scripts, student booklets, and expository passages. The implementation scripts provided step-by-step directions for teaching and practicing new strategies, the sequence of instruction, types of questioning, and feedback. Student booklets contained a list of signal words specific to each text structure, example passages using each type of text structure, a strategy specific to each text structure, and additional practice passages for each text structure type.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with a researcher-created, proximal free retell measure administered at immediate post-test and delayed post-test. Twelve passages approximately 100 words in length were written at an eighth grade reading level using Fry's (1977) readability graph. Researchers did not report the number of passages students read during each testing period or the number of idea units contained in each passage. The passage was played on an audiotape while students listened and followed along in their test booklets. Students studied the passage for four minutes, then the passage was removed and students told all they could remember. This process was repeated for all test passages. Passages were scored according to the number of central (i.e., the most important ideas in the passage) and incidental (i.e., extra, but still important) idea units recalled. Inter-rater agreement on a



20% random sample of protocols was .86. The effect size for the researcher-created measure of expository comprehension was 2.17.

Wilkins (2007) investigated the effects of teaching text structures with 7<sup>th</sup> and 8<sup>th</sup> grade students experiencing reading difficulties. Students were identified for inclusion in the study based on the principal's recommendation for students who would benefit from the intervention. All of the students considered by the principal were receiving remedial reading instruction in one of two literacy support classrooms. Although no specific information was provided on the criteria used by the principal, students served in the remedial literacy support classrooms scored below the 30<sup>th</sup> percentile on state reading assessments. A total of 49 students were recommended by the principal. Of the 49 students, the parents of 19 did not provide consent for their child to participate in the study. Thus, 30 7<sup>th</sup> and 8<sup>th</sup> grade students who met the inclusion criteria participated in the study.

Students were taught the cause/effect text structure. Instruction occurred across five 30-minute sessions, two times per week. A specific daily scope and sequence of instruction was provided. On day 1, teachers explained the definitions of expository text and the cause/effect text structure. On days 2-5, students reviewed previously learned material and used the newly learned strategies while reading researcher-provided passages. The major instructional elements included using signal words to identify the text structure, completing graphic organizers, and using the graphic organizers to write summaries. Students were taught four signal words or phrases (i.e., because, then, causes, as a result) then highlighted signal words in passages. No specific information was provided about graphic-organizer or summary-writing instruction. Instructional materials

included scripted lesson plans, overhead transparencies of passages, student booklets containing eleven passages used for instruction, and worksheets related to each lesson.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with two researcher-created proximal measures: the Test of Comprehension of Expository Text (TOCET) and a Curriculum Based Measure (CBM) Maze assessment. Both measures were administered at pre-test, post-test, and delayed post-test. Researchers developed two forms of the TOCET (Form A and Form B). Each form used the same five passages presented in a different order. Passages were written between fifth and twelfth grade reading levels according to Fry (1977) readability levels and ranged between 107 and 139 words in length. Students read a passage then wrote a free recall of all they could remember. Students repeated these steps for each passage. All passages were written using science content. The TOCET was scored according to the number of central (the most important ideas), incidental (details), and total (both central and incidental) idea units recalled. Inter-rater agreement was .80. Cronbach's alpha coefficient was .69 for Form A and .82 for Form B.

Three science passages were used for the CBM Maze, one at each testing period (pre-test, post-test, delayed post-test). Passages had a Fry's (1977) readability level of 7.1, 7.1, and 6.9, respectively. Students were given two minutes to read a passage in which every seventh word was deleted and replaced with a choice of three words. Students choose the correct word from a list of three. Reliability coefficients for the CBM Maze exceed .90 (Shin, Deno, & Espin, 2000). The combined effect size based on the two researcher-created measures of expository comprehension was -0.07.

**Elementary school.** McLaughlin (1990) investigated the effects of teaching text structures with 5<sup>th</sup> grade students experiencing reading difficulties. Students were eligible for inclusion in the study if their 4<sup>th</sup> grade score on the Total Reading portion of the California Achievement Test, level 15C (California Achievement Tests, 1977) was between the 14<sup>th</sup> and 35<sup>th</sup> percentile. Students scoring below the 14<sup>th</sup> percentile were excluded to ensure included students had the basic reading skills necessary to benefit from the expository text structure intervention. A total of 78 students met the eligibility criteria. Researchers dropped 10 of the 78 students due to absenteeism and parent withdrawal of consent. Thus, 68 5<sup>th</sup> grade students who met the inclusion criteria participated in the study.

Students were taught the compare/contrast text structure. Instruction occurred during one 60-minute session. Within this lesson, students learned the definition of the compare/contrast text structure and how to identify the things being compared and contrasted. The major instructional element included using graphic organizers. Students were taught to use a Venn diagram in a three-step process. First, teachers explained how to use a Venn diagram, highlighting the similarities and differences. Second, students used a partially completed Venn diagram to predict the two things being compared and contrasted. Third, students read a passage and completed the Venn diagram. Instructional materials included scripted directions, a Venn diagram on an overhead transparency used by the teacher, paper copies of a Venn diagram used by students, and expository passages.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with one

researcher-created proximal measure: a free recall task using six target passages written at three levels of difficulty: easy (grade equivalent 4.0 to 4.9), average (grade equivalent 5.0 to 5.9), and difficult (grade equivalent 6.0 to 6.9) administered at post-test. All passages were between 282 and 318 words in length. Students read a passage then wrote a free recall of all they could remember. The free-recall protocols were scored according to Johnson's (1970) scoring procedures, which included the number of idea units (i.e., major ideas) and central idea units (i.e. main idea) recalled. Inter-rater agreement on 9% of protocols was .73. The effect size for the researcher-created measure of expository comprehension was .11.

Ocasio (2006) investigated the effects of teaching text structures with 5<sup>th</sup> grade students experiencing reading difficulties. Students were identified for inclusion in the study if they were unresponsive to remedial reading instruction provided over the entire 4<sup>th</sup> grade year. Students were considered unresponsive if they showed inadequate performance on the core basal reading series assessments or the state reading assessment. No specific information was provided regarding the criteria used to determine inadequate performance on the core basal reading series assessments or state reading assessment. Fifty-eight 5<sup>th</sup> grade students who met the inclusion criteria participated.

Students were taught the compare/contrast, cause/effect, sequence, and problem/solution structures. Instruction occurred across sixteen 30-minute consecutive school-day sessions. Each of the four text structures was instructed across four days. A general daily scope and sequence of instruction was provided and repeated every 4 days. On day 1, students highlighted key pieces of information presented in the passages (i.e., similarities and differences, steps in a sequence, problem and proposed solution, cause

and effect). On day 2, teachers made and filled in a chart that listed the key pieces of information. On day 3, students gave an oral summary of the passage using the teacher-made chart. On day 4, students wrote a summary of the passage. The major instructional elements included using graphic organizers and writing. Students were taught to use the information from a graphic organizer to provide an oral and written summary of the passage. Teachers modeled then guided student practice giving oral summaries. No specific information was provided about summary-writing instruction. Instructional materials included teacher lesson plans and expository passages drawn from leveled resource materials, however, the description of the instructional materials and text structure instruction was not detailed and would not enable replication of the study.

The researcher did not use a comprehensive approach to measurement to assess the treatment outcomes. Students' reading comprehension was assessed with a researcher-created, proximal written summary administered at pre-test and post-test. Two free recall passages were written, one for the pre-test and one for the post-test. Students read the passage then wrote all they could remember. The written summary protocols were scored according to the number of correct key facts and topics recalled in sequence and important details recalled using vocabulary from the text. Students could score between 0 and 20 points. No reliability information was provided for the written summary measure. The effect size for the researcher-created measure of expository comprehension was 2.81.

## **Summary**

It appears that only six expository text structure instruction efficacy studies have been conducted with students experiencing reading difficulties. Examination of these

studies revealed three issues related to the present study. First, researchers failed to use clearly defined inclusion criteria for the study samples. The lack of clarity regarding the inclusion criteria makes it difficult to know the population of at-risk students to whom the results generalize. Additionally, only two of the six studies were conducted with elementary-aged students experiencing reading difficulties.

Second, with the exception of one study conducted with high school students (Smith & Friend, 1986), researchers did not teach all five expository text structures. At the elementary level, McLaughlin (1990) taught the compare/contrast text structure and Ocasio (2006) taught compare/contrast, sequence, problem/solution, and cause/effect text structures. This is problematic because as noted above there is a 0.13 effect size increase for each text structure taught after the first one. This suggests that students at risk of reading difficulties may achieve better outcomes if taught all five text structures.

Finally, researchers of the two studies conducted with elementary-aged students experiencing reading difficulties used only proximal measures to assess the effects of text structure instruction. The Institute of Education Sciences “What Works Procedures and Standards Manual” (What Works Clearinghouse, 2009) cautions against relying solely on measures that are overly aligned with treatment effects. On the one hand, researchers need to assess with a measure that is closely aligned with instruction to determine the effectiveness of the instruction. However, using only closely aligned measures minimizes or even eliminates the likelihood of demonstrating generalizability or assessing all of the treatment effects, particularly unintended outcomes (Gersten et al., 2005). Thus, as noted above, the extent to which the results of text structure instruction generalize to distal reading comprehension measures is unknown.

## **Current Study**

The current study built on and extended the previous research conducted with elementary-aged students experiencing reading difficulties in three ways. First, a clear set of inclusion criteria were specified and used to select study participants. The inclusion criteria will enable other researchers and educators to better understand the population of students used to assess the effects of text structure instruction.

Second, a comprehensive approach to instruction was used. Students were taught to identify and discriminate among all five expository text structures: compare/contrast, cause/effect, problem/solution, description, and sequence. As noted previously, the results of a recent meta-analysis suggest that comprehensive expository text structure instruction approaches are more efficacious than those that are not (Hebert et al., 2015).

Third, the effects of the expository text structure instruction were assessed using both researcher-created and norm-referenced measures. This is important because including both researcher-created measures aligned with the intervention and norm-referenced outcome measures is an important indicator of the quality of the study outcomes (Gersten et al., 2005).

The three guiding research questions for the study included:

1. What are the proximal effects (i.e., linked directly with the instructional focus of the intervention) of Structures on the ability of students to identify expository text structures compared to those in the business-as-usual control condition?
2. What are the distal effects (i.e., researcher-created measure of reading comprehension not linked directly with the instructional focus of the intervention) of Structures on the ability of students to comprehend expository text representing

multiple text structures compared to those in the business-as-usual control condition?

3. What are the delayed distal effects (i.e., norm-referenced measure of reading comprehension not linked directly with the instructional focus of the intervention) of Structures on the ability of students to comprehend expository text compared to those in the business-as-usual control condition?



## **CHAPTER THREE**

### **METHOD**

The purpose of this study was to investigate the effects of a standard protocol intervention (i.e., Structures) on elementary-aged students experiencing reading difficulties. Structures was designed to teach 4<sup>th</sup> and 5<sup>th</sup> grade students to identify and discriminate among five expository text structures. The five text structures were simple description, compare/contrast, sequence, problem/solution, and cause/effect (Meyer 1975, 1985).

#### **Setting**

The study was conducted in six K-8 parochial schools located in a suburban city in Nebraska. Demographic information on enrollment, ethnicity, and free and reduced lunch for each of the participating schools was collected from the State Department of Education. The percent of students with Individual Education Plans was collected directly from the schools (this information was not reported by the State Department of Education). The total enrollment and percent ethnicity, free and/or reduced lunch status, and IEP's across the six participating schools are presented in Table 1. A total of 1785 students were enrolled in the six schools. The overall percent ethnicity, free and/or reduced lunch status, and students with IEP's were 21%, 17% and 6%, respectively. The ethnic breakdown of the student population included, 79% Caucasian, 9% Hispanic, 6% Asian, 2% African American, 1% Native American or Alaska Native and 3% of two or more races.

Table 1

*Demographic Characteristics Across Participating Schools*

School	A	B	C	B	C	F
Enrollment	184	153	328	423	435	262
Ethnicity						
African American	10%	4%	1%	1%	1%	1%
Asian	6%	46%	4%	1%	3%	1%
Caucasian	62%	19%	83%	93%	84%	93%
Hispanic	20%	29%	6%	4%	7%	2%
Native American or Alaska Native	0%	0%	0%	0%	0%	2%
Two or more races	2%	2%	6%	1%	5%	1%
Free-Reduced Lunch	36%	47%	14%	9%	4%	22%
IEP's	6%	3%	5%	2%	5%	10%

**Participants**

The primary participants of this study included 4<sup>th</sup> and 5<sup>th</sup> grade students experiencing reading difficulties. Intervention teachers were also recruited from participating schools.

**Students.** There were three inclusion criteria for student participation in the study. The criteria were as follows:

1. Students were enrolled in 4<sup>th</sup> or 5<sup>th</sup> grade. Structures was designed for this age population of students (i.e., reading levels of passages, alignment with standards).

2. Students had to score at or below the 30<sup>th</sup> percentile on the Test of Silent Reading Efficiency and Comprehension (TOSREC; Wagner, Torgesen, Rashotte & Pearson, 2009). The 30<sup>th</sup> percentile is commonly used by researchers to identify participant samples of students at risk for reading difficulties (Simmons et al., 2008; Torgesen et al., 2006).
3. Students had to score at or above the 2.0 grade equivalent on the Word Attack subtest of the Woodcock Reading Mastery Test-Revised (WRMT-R; Woodcock, 1998). This minimum level of basic reading skills was required to enable students to read the passages embedded within Structures.

A two-step process approved by the Institutional Review Board (IRB) was used to identify students meeting the eligibility criteria. At the first step, parents of all of the 377 4<sup>th</sup> and 5<sup>th</sup> grade students enrolled in the six participating schools were sent a Parental Notification of Research letter via weekly Communication Packets (see Appendix A). The Parent Notification of Research letter described the purpose of the study and the screening process. Parents who did not want their child to participate in the screening process were asked to sign and return the Parent Notification of Research form. A total of 25 parents returned the form indicating that they did not want their student to participate in the initial screening process. The remaining 352 students were administered the TOSREC by project staff. The TOSREC is a group-administered measure of reading efficiency (speed and accuracy) and comprehension. Students were given 3 minutes to read up to 60 sentences and determine if the sentences were true or false. The average alternate form reliability coefficient (immediate administration) for the fall, winter, and spring is .86 for grade four and .89 for grade five. Eighty-four (24%) of the 352 students

screened met the eligibility criteria (i.e., scored at or below the 30<sup>th</sup> percentile on the TOSREC). These students qualified for the second step of the screening process.

At the second step, researchers sent home Parent Informed Consent letters (see Appendix A) via weekly Communication Packets to parents of students who met the initial eligibility criteria. Parents of 53 (63%) of the 84 students provided consent for their child to participate in the study. These students were administered the Word Attack subtest of the WRMT-R which measured decoding skills. The Word Attack subtest included 50 non-words that increased in difficulty. This measure was administered to students individually by project staff. Split-half reliability on the Word Attack subtest for fourth graders was not provided by the publisher. Split-half reliability on the Word Attack subtest for fifth graders is .94. All 53 students screened at the second step met the eligibility criteria (i.e., scored at the 2.0 or higher grade equivalent on the Word Attack subtest of the WRMT-R). Seven (13%) of the 53 eligible students dropped out of the study prior to the intervention period. Of these seven students, three students did not assent to participate in the study, while the parents of the four remaining students withdrew their consent for their child to participate. The parents of the first two students felt the study would take away too much time from classwork, the parents of the third student felt the testing took too much time, and the parents and teacher of the fourth student reported the student would miss most of the study and recommended dropping the child from the study. Thus, a total of 45 students participated in this study.

The 45 participants of this study included 17 fourth and 28 fifth grade students. Participant demographic information was collected from school records. The total number of participants and associated grade, percent gender, ethnicity, free and/or

reduced lunch status, and IEP's by group are presented in Table 2. The overall percent male, ethnicity, free and/or reduced lunch status, and disability status were 47%, 31%, 40%, and 22% respectively. The ethnic breakdown of the participating sample included, 69% Caucasian, 23% Hispanic, 4% African American, and 4% of two or more races.

There were no statistically significant differences between students in the two conditions on demographic variables such as gender ( $\chi^2_{(1)} = 2.81, p = .09$ ), free/reduced lunch ( $\chi^2_{(1)} = 0.73, p = .39$ ), or IEP ( $\chi^2_{(1)} = 0.23, p = .63$ ).

Table 2

*Enrollment and Demographic Characteristics of Student Participants by Group*

Group	Experimental	Control
Enrollment	24	21
Grade		
4 <sup>th</sup>	9	8
5 <sup>th</sup>	15	13
Gender		
Female	33%	58%
Male	67%	42%
Ethnicity		
African American	4%	5%
Caucasian	67%	71%
Hispanic	29%	14%
Of two or more races	0%	10%
Free-Reduced Lunch	24%	16%
IEP's	13%	9%

**Intervention teachers.** Structures was delivered by seven certified teachers (i.e., 4 general education, 3 special education) recruited by principals from the six participating schools. An IRB-approved procedure was used to consent intervention teachers (see Appendix A for Consent Letter). The years of experience, level of education, and certifications or endorsements by teacher are presented in Table 3. All teachers were

female Caucasians. Teachers' years of experience ranged from 3 to 40 years. Each teacher taught one Structures group at her respective school.

Table 3

*Characteristics of Intervention Teachers*

Teacher	A	B	C	B	C	F	G
Years Experience	14	5	3	40	24	11	17
Level of Education							
Bachelors	X	X	X	X	X	X	X
Masters	X	X				X	
Certifications/Endorsements							
Administration		X					
Business Education		X					
Early Childhood							X
Middle Grade Education		X					
Physical Education						X	
Regular Education	X	X	X	X	X	X	X
Science Education		X					
Social Science Education		X					
Special Education			X	X	X		

## Design

A randomized control trial design was used to assess the effects of Structures on participants' ability to identify expository text structures and comprehend expository text. The 45 participants were randomly assigned to experimental or business-as-usual control conditions within classrooms. A total of 24 students were enrolled in the experimental condition and 21 in the business-as-usual control condition. The 24 experimental students were assigned to one of seven Structures instructional groups across the six schools. With the exception of three groups that included both 4<sup>th</sup> and 5<sup>th</sup> graders, all instructional groups were comprised of participants from the same grade level. Group size ranged from two to seven students.

## Conditions

**Experimental condition.** Students in the experimental condition were taught to identify and discriminate among expository text structures using the Structures program. Structures includes the five text structures identified by Meyer (1975, 1985): description, compare/contrast, sequence, cause/effect, and problem/solution. The five expository text structures were organized into two major categories to facilitate teaching and learning: Descriptive and Relationship. In conjunction with the two other creators of the Structures program, I developed child-friendly definitions for each text structure.

The three Descriptive text structures and associated child-friendly definitions taught to students in Structures included:

- Simple Description: The author's intent is to tell us about something. They use characteristics or facts to describe it.
- Compare/contrast: The author's intent is to describe a connection between two things.



They make connections by telling us similarities or differences.

- Sequence: The author's intent is to describe the order in which things happen. There are three types of Sequence: steps, timeline, and cycle. Regardless of the type, the author is putting information in an order.

The two Relationship text structures and associated child-friendly definitions taught to students in Structures included:

- Cause/effect: The author's intent is to tell us how an event always leads to an outcome. The event is the cause and the outcome is the result. The relationship is between the cause and the effect.
- Problem/solution: The author's intent is to tell us how a problem might be solved. The relationship is between the problem and potential solution.

Students participated in eight daily Structures lessons. Lessons were designed to be completed in 25 to 30 minutes. The goal and associated instructional activities for each lesson are presented in Table 4.

Intervention teachers used a PowerPoint presentation and an associated Student Response Book to teach students to identify and discriminate among the five text structures. PowerPoint presentations contained all of the instructional stimuli needed to teach Structures lessons. Lesson Two is provided as an example in Appendix B. In addition to the instructional stimuli, the PowerPoint presentation included a number of scaffolds to facilitate teaching and student learning. The teaching scaffolds included background changes from color to a white-page background when the activity represented a student response in the Student Response Books and clearly marked page numbers corresponding to activities in the Student Response Books as well as a Quick

Start Teaching Guide (described below). Learning scaffolds for students included icons representing each of the text structures. These icons provided a visual representation of each of the text structures to facilitate student learning.

The Student Response Books contained all necessary response materials required for the guided and independent practice activities for each lesson (see Appendix B for front matter and Lesson 2). The guided and independent activities were organized by lesson to facilitate ease of use. The Lesson 1 student activity consisted of labeling the five text structure icons. Lessons 2-8 student activities consisted of identifying and/or discriminating between or among the text structures. Students read passages then chose the correct text structure from a list of text structures following each passage. Between two and nine practice passages were provided for each lesson.

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Table 4

*Structures Lesson Goals and Instructional Activities*

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<b>Lesson</b>	<b>Goal/Instructional Activities</b>
1	Learn about expository text structures. <ol style="list-style-type: none"> <li>1. Discuss five text structures definitions and icons.</li> <li>2. Label text structure icons in Student Response Books.</li> <li>3. Check student responses to guided/independent learning activity.</li> </ol>
2	Describe and discriminate between simple description and compare/contrast text structures. <ol style="list-style-type: none"> <li>1. Review five text structures.</li> <li>2. Discuss simple description and compare/contrast definitions and icons.</li> <li>3. Model how to identify simple description and compare/contrast text structures.</li> <li>4. Model how to discriminate between simple description and compare/contrast text structures.</li> <li>5. Practice identifying and discriminating between simple description and compare/contrast text structures in Student Response Books.</li> <li>6. Check student responses to guided/independent learning activities.</li> </ol>

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3	<p>Describe and discriminate among simple description, compare/contrast, and sequence text structures.</p> <ol style="list-style-type: none"><li>1. Review similarities and differences between the description and compare/contrast text structures.</li><li>2. Discuss sequence definitions and icons including the three types (steps, cycle, and timeline).</li><li>3. Model how to identify the simple description, compare/contrast, and sequence text structures.</li><li>4. Model how to discriminate among the simple description, compare/contrast, and sequence text structures.</li><li>5. Practice identifying and discriminating among simple description, compare/contrast, and sequence text structures in Student Response Books.</li><li>6. Check student responses to guided/independent learning activities.</li></ol>
4	<p>Discriminate among simple description, compare/contrast, and sequence text structures.</p> <ol style="list-style-type: none"><li>1. Review author's intent for the problem/solution and cause/effect text structures and the differences between them.</li><li>2. Practice identifying and discriminating among simple description, compare/contrast, and sequence text structures in Student Response Books.</li><li>3. Check student responses to guided/independent learning activities.</li></ol>
5	<p>Describe and discriminate between problem/solution and cause/effect text structures.</p> <ol style="list-style-type: none"><li>1. Review three Descriptive and two Relationship text structures.</li><li>2. Discuss problem/solution and cause/effect definitions and icons.</li><li>3. Model how to identify the problem/solution and cause/effect text structures.</li><li>4. Model how to discriminate between the problem/solution and cause/effect text structures.</li><li>5. Practice identifying and discriminating between problem/solution and cause/effect text structures in Student Response Books.</li><li>6. Check student responses to guided/independent learning activities.</li></ol>
6	<p>Discriminate between problem/solution and cause/effect text structures.</p> <ol style="list-style-type: none"><li>1. Review author's intent for the problem/solution and cause/effect text structures.</li><li>2. Practice identifying and discriminating between problem/solution and cause/effect text structures in Student Response Books.</li><li>3. Check student responses to guided/independent learning activities.</li></ol>

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7	Discriminate among Descriptive and Relationship text structures. <ol style="list-style-type: none"> <li>1. Review author's intent for Descriptive and Relationship text structures and the differences between them.</li> <li>2. Practice identifying and discriminating among all five text structures in Student Response Books.</li> <li>3. Check student responses to guided/independent learning activities.</li> </ol>
8	Discriminate among Descriptive and Relationship text structures. <ol style="list-style-type: none"> <li>1. Practice identifying and discriminating among all five text structures in Student Response Books.</li> <li>2. Check student responses to guided/independent learning activities.</li> </ol>

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The Lexile levels of the passages in the PowerPoint presentation and Student Response Book ranged from 445L to 810L. These represented the Lexile levels used at the 25th and 75th percentiles at the fourth grade level (Lexile.com). Lower-level passages were used for all student exercises (i.e., Lexile levels between 400 and 600); whereas, higher-level passages were used for teacher modeling and scaffolding (i.e. Lexile levels > 600).

**Teacher training.** A Structures co-author and I trained intervention teachers to implement Structures during a two-hour training session. First, we provided teachers an overview of the theory, research base, and rationale for teaching expository text structures. We also reviewed definitions of the expository text structures detailed above and in the Program Manual (see Appendix B for Program Overview). Second, we reviewed Structures' PowerPoint Presentations, Student Response Books, and the Quick Start Teaching Guide. This review included describing use of the teaching and learning scaffolds (described above and in the Program Manual) and PowerPoint Presentations. Third, we modeled and practiced the implementation activities with teachers using the program materials. We provided structured feedback to teachers on their proficiency

during the practice activities. Finally, we asked teachers to use the Quick Start Teaching Guide to preview lessons prior to instruction as well as during instruction (see Appendix B for Lesson 2). The Quick Start Teaching Guide was organized by lessons and provided a short description of how to teach each activity represented in a lesson. As noted above, instructional scaffolds (i.e., page and PowerPoint view number) embedded in the PowerPoint presentations enabled teachers to quickly access activity descriptions in the Quick Start Teaching Guide.

**Business-as-usual control condition.** Students in the business-as-usual control condition participated in the same activities or instruction provided by their classroom teachers. No attempt was made to alter the instruction provided to students by teachers in the control condition.

### **Dependent Measures**

Students' ability to identify expository text structures was assessed with a researcher-created proximal measure (i.e., Structure Identification). Students' ability to comprehend expository text was assessed with a researcher-created distal measure (i.e., Oral Retell) and a norm-referenced delayed distal measure (i.e., Degrees of Reading Power).

**Structure Identification (pre- and post-test).** The Structure Identification was an untimed, group-administered, multiple-choice measure designed to assess the ability of students to identify the five expository text structures taught in the program (see Appendix D). The Structure Identification was composed of 15 passages (i.e., three passages representing each of the five text structures). The sequence of passages was distributed randomly across the five types of text structures. The passages ranged in

length from 46 to 88 words and Lexile levels from 410L to 940L. A list of the five expository text structures followed each passage. Students read a passage then chose the text structure that best fit the passage from the list of five text structures. Items were scored as correct or incorrect. Thus the total score ranged from 0 to 15. Two alternative forms of the Structure Identification were developed for administration at the pre- and post-test periods (Forms A and B). The forms were counterbalanced across experimental groups and pre- and post-test periods. Students in 4<sup>th</sup> and 5<sup>th</sup> grade were administered the same measures. Students were assessed approximately one week prior to and within five days following the intervention period. Alternate forms of the assessment were used; therefore, it is important to establish the reliability between the two forms. Because instruction was provided to the experimental group, the alternate form reliability was based only on students in the business-as-usual control condition. Alternate form reliability was  $r = 0.68$ .

Trained university students and I administered the Structure Identification in a quiet distraction-free room to students in the experimental and business-as-usual control conditions at each respective school at the same time. First, we handed out the specific form assigned to each student. Second, students read and reviewed child-friendly definitions for each of the five text structures. Third, we read the directions for completing the Structure Identification and provided students an opportunity to ask questions regarding how to complete the Structure Identification. Fourth, students independently completed the Structure Identification. Fifth, students returned their completed Structure Identification to staff and returned to their classrooms. Time for

students to complete the Structure Identification ranged from approximately ten to twenty minutes.

The Structure Identification measures were scanned and scored electronically. Scanned protocols were reviewed and compared with original protocols. Inconsistencies were corrected immediately. Twenty percent of protocols were checked with scanned data. One hundred percent of the scanned data checked matched the original protocols.

**Oral Retell (post-test).** The Oral Retell was an untimed, individually-administered measure comprised of a single, 3-paragraph passage (see Appendix D). Each paragraph of the passage represented a single text structure (i.e., simple description, sequence, and problem/solution text structures). The Oral Retell was designed to assess students' comprehension of expository text representing varied text structures, which is common in authentic expository text. Students read the passage then said all they could recall about the passage without referencing the passage. Student retells were audio-recorded. Students in the 4<sup>th</sup> and 5<sup>th</sup> grades were administered the same measure. Students were assessed within five days following the intervention period.

The Lexile level for the Oral Retell passage (193 words) was 740L. Similar to procedures used by Hammann & Stevens, (2003), student responses to the Oral Retell were scored according to the total number of idea units recalled in their responses. An idea unit consisted of a single fact represented in the passage (e.g., automakers make cars). The Oral Retell passage had 28 idea units. The Oral Retell Idea Units Scoring Sheet for the passage is presented in Appendix D.

To determine idea units, two project staff agreed upon the facts represented in each passage and created a draft of the Idea Units Score Sheets. Six members of the

project staff scored two passages using the draft of the Idea Units Score Sheets. Staff discussed disagreements and clarified confusing idea units. Agreed-upon changes were made to the Idea Units Score Sheets. A final version of the Idea Units Score Sheets was created. Oral Retells were scored by one staff member using the final version of the Idea Units Score Sheet. The Oral Retell passage and associated Idea Units Score Sheet are presented in Figure 1.

Trained university students and I administered the Oral Retell in a quiet distraction-free room to students in the experimental and business-as-usual control conditions at each respective school at the same time. First, we read the directions for completing the Oral Retell and provided students an opportunity to ask questions regarding how to complete the Oral Retell measure. Second, students read the passage silently. Third, students turned the passage over and retold everything they could remember. We audio-recorded students' retells. Finally, students returned to their classrooms. Time for students to complete the Oral Retell ranged from approximately five to ten minutes.

To determine inter-scorer agreement, two trained university students, a Structures co-author and I independently scored 20% of the Oral Retells. Point-by-point agreement for each idea unit was scored. Inter-scorer agreement was calculated by dividing the number of agreements by the total number of possible agreements and multiplying by 100. Inter-scorer agreement for the Oral Retell was 97%.



Figure 1

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*Oral Retell Passage and Idea Units Score Sheet*

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### The Open Road

Companies that make cars are called automakers. Automakers sell thousands of cars each year. Millions of laborers depend on the automotive industry for their jobs. Automakers rely on many industries to make parts. In fact, one out of every six businesses in America contributes to the automotive industry.

The first cars were built in 1769. They were powered by steam. Cars powered by steam were not safe, and they often broke down. Automakers began using gas engines in their cars in the late 1800s. Although these cars were safer and more reliable, they were more expensive. Henry Ford started the Ford Motor Company in 1903. His goal was to build cars that many people could afford. The Ford Motor Company was the first to use an assembly line.

The assembly line was efficient, but it was boring work. Each laborer added one part of the car until it was built. By using this method Ford's laborers could build a new car every ninety minutes. However, his laborers wanted to quit the boring assembly-line work. To ensure workers didn't quit, Ford doubled their wages. Today, all automakers use an assembly line to make cars.

**Paragraph 1:**

- \_\_\_ Automakers are companies
- \_\_\_ Automakers make cars
- \_\_\_ Automakers sell cars (thousands of/many cars each year)
- \_\_\_ Laborers depend on the automotive industry for their jobs
- \_\_\_ Automakers rely on many industries to make parts
- \_\_\_ One out of every six/many businesses in America contribute(s) to the automotive industry

**Paragraph 2:**

- \_\_\_ First cars were built in 1769
- \_\_\_ They were powered by steam
- \_\_\_ They were not safe
- \_\_\_ They often broke down
- \_\_\_ Automakers began using gas engines
- \_\_\_ Gas engines were first used in the late 1800's/a long time ago
- \_\_\_ These cars were safer
- \_\_\_ These cars were more reliable
  
- \_\_\_ These cars were more expensive
- \_\_\_ Henry Ford built cars
- \_\_\_ He started the Ford Motor Company

- 
- \_\_\_ (The Ford Motor Company was started) in 1903
  - \_\_\_ He wanted to build cars that many could afford
  - \_\_\_ This was the first time an assembly line was used

**Paragraph 3:**

- \_\_\_ The assembly line was efficient (e.g. cars were made more quickly)
- \_\_\_ (The assembly line) was boring
- \_\_\_ Each laborer added one part (until the car was built)
- \_\_\_ A new car could be built in 90 minutes/quicker than before
- \_\_\_ Laborers wanted to quit
- \_\_\_ Ford wanted to ensure his workers didn't quit
- \_\_\_ Ford doubled workers' wages
- \_\_\_ Now, all automakers use an assembly line to make cars

Total facts: \_\_\_\_ / 28 = \_\_\_\_ %

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**Degrees of Reading Power (pre-test and delayed post-test)**

The Degrees of Reading Power was an untimed, group administered norm-referenced measure used to evaluate students' comprehension of expository text (Touchstone Applied Science Associates, 2000). The Degrees of Reading Power included nine expository passages of increasing length and difficulty. The Degrees of Reading Power used a modified cloze format. Within the passages 63 words were deleted. Students chose the word that made the most sense from a list of five words. Two alternate forms of the 4<sup>th</sup> and 5<sup>th</sup> grade Degrees of Reading Power were used (4A/4B, 5A/5B). As recommended by the authors, the same respective grade-level form was administered at the pre-test (i.e., 4A and 5A) and delayed post-test (i.e., 4B and 5B) to all students. The pre-test was administered approximately one week prior to the start of the intervention

period. The delayed post-test was administered approximately three weeks following the end of the intervention period.

The publisher reported that the Kuder-Richardson Formula 20 (K-R 20) reliability and alternative form reliability coefficients for 4<sup>th</sup> grade were .94 and .89, respectively (Questar Assessment, Inc., 2000). The K-R 20 reliability coefficient for 5<sup>th</sup> grade was .95. The publisher did not report the alternative form reliability for 5<sup>th</sup> grade.

Trained university students and I administered the Oral Retell in a quiet distraction-free room to students in the experimental and business-as-usual control conditions at each respective school at the same time. First, we handed out the specific form assigned to each student. Second, we read the directions for completing the Degrees of Reading Power and provided students an opportunity to ask questions regarding how to complete the assessment. Third, students independently completed the Degrees of Reading Power. Finally, students returned their completed Degrees of Reading Power to staff and returned to their classrooms. Time for students to complete the Degrees of Reading Power ranged from approximately 45 to 75 minutes.

The Degrees of Reading Power measures were scanned and scored electronically. Inconsistencies were corrected immediately. Twenty percent of protocols were compared to scanned data. One hundred percent of the scanned data matched the original protocols. Raw Degrees of Reading Power scores were converted to Normal Curve Equivalents (NCE).

### **Treatment Fidelity**

All intervention teachers were observed and audio-taped delivering instruction to their groups during all eight lessons to establish inter-observer agreement. Lesson-

specific fidelity checklists were used to assess the percent of primary instructional activities implemented by intervention teachers (see Structures Treatment Fidelity Forms, Appendix E). Note that the checklists corresponded directly to the major components of each lesson specified above in Table 4.

The percent of instructional activities completed per lesson across the intervention teachers was calculated and is presented in Table 5. The percent of instructional activities completed by teachers per lesson was calculated by dividing the number of activities implemented by the number of activities possible and multiplying by 100.

Table 5

*Percent of Activities Completed per Lesson Across Intervention Teachers*

Teacher	Lesson							
	1	2	3	4	5	6	7	8
A	95	92	95	100	92	100	89	100
B	84	92	100	100	100	100	100	100
C	100	92	100	100	100	90	100	100
D	84	85	95	100	100	100	100	100
E	95	92	100	100	100	100	100	100
F	100	100	100	100	100	100	100	100
G	100	100	84	92	100	100	100	100

To establish inter-observer agreement, two trained university students listened to 30% of the audio-recordings independent of observers. Trained university students recorded the number of instructional activities absent or present. Point-by-point agreement for each instructional activity was scored. Inter-observer agreement was calculated by dividing the number of agreements by the total number of possible agreements and multiplying by 100. Inter-observer agreement was 95%.

## CHAPTER FOUR

### RESULTS

#### Data Analysis

Differences between the experimental and business-as-usual control conditions on post-test outcomes were evaluated using a regression-based approach where  $Y'$  is the predicted post-test score,  $B_0$  is the mean for the business-as-usual control condition students,  $B_1$  is the increase or decrease in the mean for experimental condition students, and  $B_2$  is the additive effect of the pre-test covariate. For models that included a pre-test covariate (e.g., RQ1 and RQ3), the covariate was mean-centered so that the intercept ( $B_0$ ) is interpreted as the mean for the business-as-usual control group when the pre-test score is average. The unadjusted pre-test and post-test means and associated standard deviations for the dependent measures are presented in Table 6. Cohen's  $d$  effect sizes were computed based on the regression coefficient for condition and the standard deviation of the outcome variable (i.e., the effect is conditional on the covariate if a covariate was included in the model).

$$Y' = B_0 + B_1 * CONDITION + B_2 * COVARIATE$$

#### Pre-Intervention Group Differences

Chi-square and independent-samples  $t$ -tests were used to examine pre-intervention differences between students assigned to the experimental condition and students assigned to the business-as-usual control condition. There were no statistically significant differences between students in the two conditions on demographic variables such as gender ( $\chi^2_{(1)} = 2.81, p = .09$ ), free/reduced lunch ( $\chi^2_{(1)} = 0.73, p = .39$ ), or IEP ( $\chi^2_{(1)} = 0.23, p = .63$ ). There were no statistically significant differences between students

in the two conditions on pre-test reading measures such as the TOSREC ( $t(43) = 0.10, p = .91$ ), Woodcock Reading Mastery Test ( $t(43) = -1.06, p = .30$ ), the Degrees of Reading Power ( $t(43) = 0.82, p = .42$ ), and Structure Identification ( $t(43) = -0.98, p = .34$ ).

Table 6

*Scores on Dependent Measures for Students in Experimental and BAU Conditions*

Dependent Measures	<u>Pre-test</u>		<u>Post-test</u>		<u>Delayed Post-test</u>	
	Exp.	BAU	Exp.	BAU	Exp.	BAU
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Proximal Measures						
Structure Identification	5.63 (2.72)	6.48 (3.14)	9.58 (2.06)	7.52 (2.18)		
Oral Retell			5.00 (3.29)	4.57 (3.11)		
Distal Measure						
Degrees of Reading Power	41.42 (13.32)	38.76 (12.53)			41.25 (13.38)	40.76 (11.03)

### **Research Q1:** Proximal Effects on Identification of Expository Text Structures

The regression analysis indicated a statistically significant effect of condition on the Structure Identification measure ( $B_1 = 2.46, \beta = 0.53, p < .001$ ) with students in the experimental condition scoring ( $M = 9.58, SD = 2.06$ ), on average, 2.46 points higher than students in the business-as-usual control condition ( $M = 7.52, SD = 2.18$ ). The resulting standardized mean difference between groups was  $d = 0.94$  (95%  $CI = 0.32$ ,

1.56) which can be considered *large* according to Cohen's general guidelines (Cohen, 1988). Note that pre-test scores were included in the model to account for any pre-existing differences between the students in the different conditions (small and non-significant differences were found prior to treatment), so the slope parameter is conditional on the covariate (i.e., mean difference at post-test accounting for pre-existing differences).

**Research Q2:** Researcher-created Distal Effects on Comprehension of Expository Text

Scores on the Oral Retell measure did not significantly differ between the two groups at post-test with students in experimental condition averaging a score of 5.00 (SD = 3.29) and students in the the business-as-usual control condition averaging a score of 4.57 (SD = 3.11). Table 7 lists the regression parameters for the model. Students in the experimental condition performed slightly, but not significantly, better on oral retell compared to students in the business-as-usual control condition ( $B_I = 0.43$ ,  $\beta = 0.07$ ,  $d = 0.14$  [-0.45, 0.73]). This model did not include any covariates.

**Research Q3:** Norm-referenced Delayed Distal Effects on Comprehension of Expository Text

Scores on the Degrees of Reading Power (NCE) did not differ statistically between conditions ( $B_I = -1.32$ ,  $\beta = -0.05$ ,  $p = .620$ ) with students in the experimental condition scoring ( $M = 41.25$ ,  $SD = 13.38$ ), on average, 1.32 points *lower* than students in the business-as-usual condition ( $M = 40.76$ ,  $SD = 11.03$ ) *when accounting for pre-test differences*. The resulting standardized mean difference between groups was  $d = -0.11$  (95%  $CI = -0.70$ ,  $0.48$ ). Note that pre-test scores were included in the model to account for any pre-existing differences between the students in the different conditions (small



and non-significant differences were found prior to treatment), so the slope parameter is conditional on the covariate (i.e., mean difference at post-test controlling for pre-existing differences).

Table 7

*Regression Results*

	Unstandard	S.E.	Standard	<i>p</i> -value
	Coefficient		Coefficient	
Model/Parameter	(B)		( $\beta$ )	
Structure Identification				
$(R^2 = .53)$				
Intercept, $B_0$	7.31	0.36		
Slope, $B_1$	2.46	0.49	0.53	<.001
Pre-Test Cov, $B_2$	0.47	0.09	0.59	<.001
Oral Retell <sup>a</sup>				
$(R^2 = .01)$				
Intercept, $B_0$	4.57	0.70		
Slope, $B_1$	0.43	0.97	0.07	.660
Degrees of Reading Power				
$(R^2 = .XX)$				
Intercept, $B_0$	42.23	1.92		
Slope, $B_1$	-1.32	2.63	-0.05	.620
Pre-Test Cov, $B_2$	0.68	0.10	0.72	<.001

For condition, business-as-usual control = 0 and experimental = 1

<sup>a</sup> 1 outlier case was omitted ( $z = 3.7$ )

## CHAPTER FIVE

### DISCUSSION

The purpose of this study was to examine the effects of a standard protocol intervention designed to teach 4<sup>th</sup> and 5<sup>th</sup> grade students experiencing reading difficulties to identify and discriminate among five expository text structures: description, sequence, cause/effect, compare/contrast, and problem/solution (Meyer, 1975, 1985). This study builds directly on two previous intervention studies conducted with elementary-aged students experiencing reading difficulties (McLaughlin, 1990; Ocasio, 2006) and expository text structure research focused on the effects of expository text structure instruction on reading comprehension (Hebert et al., 2015). The experimental condition was compared to a business-as-usual control condition. The 4<sup>th</sup> and 5<sup>th</sup> grade students entered the study with limited reading comprehension skills (i.e., scored at or below the 30<sup>th</sup> percentile on the TOSREC) and basic reading skills (i.e., 2.0 or greater grade equivalent score on the WRMT-R Word Attack subtest) necessary to independently read the intervention passages. The expository text structure instruction was consistently implemented with a high degree of fidelity by intervention teachers. Instructional design features that supported high-quality implementation included specified and sequenced instructional formats and the inclusion of all the necessary instructional stimuli needed to teach the lessons.

Analysis of results showed that the treatment had relatively large effects on the ability of students to identify expository text structures (proximal intervention effects). The obtained effect size was .94 (95% *CI* = 0.32, 1.56). Although it is difficult to fully interpret the magnitude of this effect size given that the measure was researcher created,

it may be considered *large* according to Cohen's general guidelines (Cohen, 1988). These findings are in alignment with previous research showing that elementary-aged children benefit from expository text structure instruction (Hebert et al., 2015). Furthermore, the effect size for the present study falls between the 0.11 and 2.81 effect sizes obtained for the studies conducted with elementary-aged students experiencing reading difficulties (McLaughlin, 1990; Ocasio, 2006; respectively). In contrast to much of the previous expository text structure instruction research, the treatment did not appear to produce a statistically significant distal effect on the reading comprehension of students. The obtained effect size was 0.14 (95% *CI* = -0.45, 0.73). This small effect size may have some practical importance given the study was underpowered. The small effect may have occurred because the treatment focused solely on teaching students to identify and discriminate among the five expository text structures. Subsequent planned iterations of the treatment will include a focus on improving students' ability to comprehend text. The sole focus on the identification and discrimination of expository text structures was purposeful. It may be that the skills needed to transfer identification of text structure to comprehension require more explicit instruction, particularly for students experiencing reading difficulties.

Consistent with these non-significant researcher-created distal comprehension results, the treatment did not have an effect on the delayed distal norm-referenced measure of reading comprehension (i.e., Degrees of Reading Power). The obtained effect size was -0.11 (95% *CI* = -0.70, 0.48). This finding is somewhat consistent with previous research showing that expository text structure instruction has shown limited or no effects on norm-referenced measures of reading comprehension (Hebert et al., 2015). The lack of

effects on such distal measures represents a significant practical challenge. Educators need to be confident that time spent teaching expository text structures will produce an effect on accountability measures.

### **Limitations and Recommendations for Future Research**

The current study has several limitations that might be addressed in future studies with elementary-aged students experiencing reading difficulties. First, findings for research question 2 may be limited by low power to detect an effect. It was my original intent to recruit a sample size that would have yielded results. In a power analysis conducted prior to the study, the multi-site RCT design needed to include 26 classrooms with 6 kids in each classroom to be able to detect an effect size of .50 at .80 power. I was only able to recruit 48 students in 17 classrooms. As stated previously, an effect size of 0.14 may be practically significant, but it was not statistically significant based on our power. Future research incorporating a larger number of students is needed to determine whether there are any small, but practical effects for distal measures of reading comprehension.

Second, findings are limited by the location and homogeneity of the sample. All children who participated in the supplemental text structure instruction program were students at the same six parochial schools located in the Midwest. Thus the organizational structures, literacy instruction, and the demographic characteristics of the students and staff limit generalization to other settings. Future research should include heterogeneous populations and more varied settings.

Third, although there was a strong effect for treatment on the text structure identification measure, I did not include a delayed posttest identification measure to

determine if the effects were maintained over time. Results from the meta-analysis suggest that the effects of text structure instruction are maintained over time on measures of reading comprehension (Hebert et al., 2015). However, there is less certainty about whether the effects of identification of text structures would be maintained. Future research should include a text structure identification maintenance measure.

Fourth, The linear regression model assumption of independent residuals is almost always violated when participants are ‘nested’ within ‘clusters’ (sometimes referred to as multi-level structure or hierarchical structure). Some examples of commonly occurring hierarchical structures within educational research include *students nested within classrooms/schools*, schools nested within districts, and districts nested within states. This nesting causes individuals to be more similar to other individuals within the same cluster than to individuals in other clusters, which results in underestimating the variance of scores and thus the standard errors of regression coefficients. This ultimately results in an inflated Type I error rate. Future research using this intervention should employ analysis techniques that account for the hierarchical structure of the outcome data such as multi-level models or robust standard error estimation within linear regression. Neither approach was implemented in the current study due to insufficient ‘level-2’ units (<20; classrooms or schools) and relatively small intra-class correlations.

Finally, I did not find an effect on expository text comprehension with researcher-created or norm-referenced measures. This is likely because comprehension was not the focus of Module 1 of the Structures intervention. One of the reasons for including the distal measures in this study was to determine the need for Structures Modules 2 and 3. If

the effects of Module 1 transferred to distal measures of comprehension, the second and third modules may not be necessary. However, this research suggests students may need additional instruction in using text structures to analyze, interpret, and increase comprehension of expository text. Future research needs to be conducted on the effectiveness of the second and third modules to increase comprehension by building on the impact Module 1 has on identifying text structures used by authors.

## REFERENCES

- Armbruster, B. B. (1988). *Why some children have trouble reading content area textbooks* (Technical Report No. 432). University of Illinois at Urbana-Champaign.
- Bakken, J. P., Mastropieri, M. A., & Scruggs, T. E. (1997). Reading comprehension of expository science material and students with learning disabilities: A comparison of strategies. *Journal of Special Education, 31*(3), 300-324. doi: 10.1177/002246699703100302
- California Achievement Tests. (1977). *Level 15, Form C*. Monterey, CA, CTB/McGraw-Hill, Inc.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Dale, E., & Chall, J. S. (1948). A formula for predicting readability. *Educational Research Bulletin, 27*, 11-20.
- Duke, N. K., Pearson, P. D., Strachan, S. L., & Billman, A. K. (2011). Essential elements of fostering and teaching reading comprehension. In S. J. Samuels & A. E. Farstrup (Eds.), *What research has to say about reading instruction* (4th ed., pp. 51-93). Newark, DE: International Reading Association.
- Englert, C. S., & Hiebert, E. H. (1984). Children's developing awareness of text structures in expository materials. *Journal of Educational Psychology, 76*, 65-75.
- Englert, C. S., Raphael, T. E., Anderson, L. M., Anthony, H. E., & Stevens, D. D. (1991). Making writing strategies and self-talk visible: Cognitive strategy instruction in writing. *American Educational Research Journal, 28*, 337-373.



- Fry, E. (1977). Fry's readability graph: Clarifications, validity, and extension to level 17. *Journal of Reading, 21*, 242-252.
- Gersten, R., Fuchs, L. S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M. S. (2005). Quality indicators for group experimental and quasi-experimental research in special education. *Exceptional children, 71*(2), 149-164.
- Hall, K. M., Sabey, B. L., & McClellan, M. (2005). Expository text comprehension: Helping primary grade teachers use expository texts to their full advantage. *Reading Psychology, 26*(3), 211-234.
- Hammann, L. A., & Stevens, R. J. (2003). Instructional approaches to improving students' writing of compare-contrast essays: An experimental study. *Journal of Literacy Research, 35*(2), 731-756. doi: [10.1207/s15548430jlr3502\\_3](https://doi.org/10.1207/s15548430jlr3502_3)
- Hebert, M., Bohaty, J., Nelson, J. R., & Brown, J. A. (2015). A meta-analysis of the effects of text structure instruction on reading comprehension. Manuscript submitted for publication.
- Johnson, R. E. (1970). Recall of prose as a function of the structural importance of the linguistic units. *Journal of Verbal Learning and Verbal Behavior, 9*, 12-20.
- Leslie, L., & Caldwell, J. (2001). *Qualitative Reading Inventory—3*. New York, NY: Addison Wesley Longman.
- Lexile.com.
- Lipsey, M. W., Puzio, K., Yun, C., Hebert, M. A., Steinka-Fry, K., Cole, M. W., ... Busick, M.D. (2012). *Translating the statistical representation of the effects of education interventions into more readily interpretable forms*. (NCSE 2013-3000). Washington, DC: National Center for Special Education Research,

- Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncser/pubs/20133000/pdf/20133000.pdf>
- McGee, L. M. (1982). Awareness of text structure: Effects on children's recall of expository text. *Reading Research Quarterly*, 17, 581-590.
- McLaughlin, E. M. (1990). *Effects of graphic organizers and levels of text difficulty on less-proficient fifth-grade readers' comprehension of expository text* (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations (UMI No. 9030955).
- Meyer, B. J. F. (1975). *The organization of prose and its effects on memory*. Amsterdam, Netherlands: North-Holland Publishing.
- Meyer, B. J. F. (1985). Prose analysis: Purposes, procedures, and problems. In B. K. Britton & J. Black (Eds.), *Understanding expository text: A theoretical and practical handbook for analyzing explanatory text* (pp. 269-304). Hillsdale, NJ: Erlbaum.
- Meyer, B. J. F., Brandt, D. M., & Bluth, G. J. (1980). Use of top-level structure in text: Key for reading comprehension of ninth-grade students. *Reading Research Quarterly*, 16, 72-103.
- Meyer, B. J. F., Middlemiss, W., Theodorou, Brezinski, K. L., McDougall, J., & Bartlett, B. J. (2002). Effects of structure strategy instruction delivered to fifth-grade children via the internet with and without the aid of older adult tutors. *Journal of Educational Psychology*, 94, 486-519.
- Nebraska State Department of Education. (n.d.). Available from <http://www.education.ne.gov/index.html>

- Ocasio, T. L. (2006). *A comparison of two instructional programs to develop strategies to improve reading comprehension* (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations (UMI No. 3209082).
- Questar Assessment, Inc. (2000). *DRP Norms: Primary and Standard DRP Test Forms*. Brewster, NY: Author.
- Ray, M. N., & Meyer, B. J. (2011). Individual differences in children's knowledge of expository text structures: A review of literature. *International Electronic Journal of Elementary Education*, 4.
- Russell, S. L. (2005). *Challenging task in appropriate text: Designing discourse communities to increase the literacy growth of adolescent struggling readers* (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations (UMI No. 3178568).
- Sáenz, L. M., & Fuchs, L. S. (2002). Examining the reading difficulty of secondary students with LD. *Remedial and Special Education*, 23(1), 31-41.
- Shin, J., Deno, S. L., & Espin, C. (2000). Technical adequacy of the maze task for curriculum-based measurement of reading growth. *The Journal of Special Education*, 34(3), 164-172.
- Simmons, D. C., Coyne, M. D., Kwok, O. M., McDonagh, S., Harn, B. A., & Kame'enui, E. J. (2008). Indexing response to intervention a longitudinal study of reading risk from kindergarten through third grade. *Journal of Learning Disabilities*, 41(2), 158-173.

- Smith, P. L., & Friend, M. (1986). Training learning disabled adolescents in a strategy for using text structure to aid recall of instructional prose. *Learning Disabilities Research, 2*(1), 38-44.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Taylor, B. M. (1980). Children's memory for expository text after reading. *Reading Research Quarterly, 15*, 399-411.
- Taylor, M. B., & Williams, J. P. (1983). Comprehension of learning-disabled readers: Task and text variations. *Journal of Educational Psychology, 75*, 743-751.
- Torgesen, J., Stancavage, F., Myers, D., Schirm, A., Stuart, E., Vartivarian, S., . . . Haan, C. (2006). *Closing the reading gap: First year findings from a randomized trial of four reading interventions for striving readers: Final report*. Washington, DC: US Department of Education, Institute of Education Sciences.
- Touchstone Applied Science Associates. (2000). *Degrees of Reading Power*. Brewster, NY: Author.
- Van Dijk, T. A., & Kintsch, W. (1983). *Strategies of discourse comprehension*. New York, NY: Academic Press.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., & Pearson, N. A. (2009). *TOSREC: Test of Silent Reading Efficiency and Comprehension*. Austin, TX: Pro-Ed.
- What Works Clearinghouse. (2008). WWC procedures and standards handbook. Available from [http://ies.ed.gov/ncee/wwc/pdf/reference\\_resources/wwc\\_procedures\\_v3\\_0\\_standards\\_handbook.pdf](http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v3_0_standards_handbook.pdf)

- Wechsler, D. (1974). *Wechsler Intelligence Scale for Children-Revised*. San Antonio, TX: Psychological Corp.
- Wechsler, D. (1991). *Wechsler Intelligence Scale for Children (3rd ed.)*. San Antonio, TX: Psychological Corp.
- Wijekumar, K. K., Meyer, B. J. F., & Lei, P. (2012). Large-scale randomized control trial with 4th graders using intelligent tutoring of the structure strategy to improve nonfiction reading comprehension. *Educational Technology Research and Development*, 60, 986-1013.
- Wijekumar, K., Meyer, B. J., Lei, P. W., Lin, Y. C., Johnson, L. A., Spielvogel, J. A., ... & Cook, M. (2014). Multisite randomized controlled trial examining intelligent tutoring of structure strategy for fifth-grade readers. *Journal of Research on Educational Effectiveness*, 7(4), 331-357.
- Wilkins, S. A. (2007). *Teaching expository text strategies to improve reading comprehension in low readers* (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations (UMI No. 3270462).
- Wilkinson, G. S., & Robertson, G. J. (2006). *Wide Range Achievement Test (WRAT4)*. Lutz, FL: Psychological Assessment Resources.
- Woodcock, R. W. (1998). *Woodcock Reading Mastery Tests-revised (WRMT-R)*. Circle Pines, MN: American Guidance Service.

**APPENDIX A**

**NOTIFICATION AND INFORMED CONSENT LETTERS**

**PARENTAL NOTIFICATION OF RESEARCH**

**PARENT INFORMED CONSENT**

**TREATMENT INTERVENTION TEACHER CONSENT FORM**

### **Parental Notification of Research**

Dear Parent/Guardian,

My name is Dr. Michael Hebert. I am conducting a research study with a number of parochial schools. The purpose of the study is to assess the effects of an intervention for improving students' reading comprehension of science, social studies and history texts. The intervention is designed for 4<sup>th</sup> and 5<sup>th</sup> grade students experiencing reading difficulties. To identify students who may benefit from the instruction provided in the intervention, we are administering a short norm-referenced reading comprehension screening measure to all 4<sup>th</sup> and 5<sup>th</sup> grade students in your child's school. The screening measure is used widely in schools nationwide and will take approximately 5-10 minutes to complete.

If you are comfortable with your student participating in our screening process, you do not have to do anything. If you do not want your student to complete the screening measure, please sign the Parent Notification Form below and send it back to your student's school. You may also contact me using the contact information listed below.

If your student meets our eligibility criteria, we will contact you and seek your formal consent for your student to participate in our formal evaluation of the text structure intervention.

If you have any questions about this study, please contact me at michael.hebert@unl.edu or 402-472-3306. If you have any questions concerning your rights as a research subject that have not been answered by the investigator, you may contact the University of Nebraska-Lincoln Institutional Review Board (402-472-6965).

You are free to decide not to have your student complete the screening measure. Your decision will not result in any loss of benefits to which you are already entitled, and will not affect your student's education in any way.

Thank you for your time,

Michael Hebert  
University of Nebraska—Lincoln 318Q Barkley Memorial Center Lincoln, NE 68583  
michael.hebert@unl.edu  
402-472-3306

**Parent Notification Form**

I have read the information about the research being conducted by the University of Nebraska- Lincoln. I do not wish my child to complete this screening measure.

*Please check the box below and return this form to your child's teacher only if you do not want your son/daughter to complete this screening measure.*

☐

I do not wish my child to complete the screening measure being conducted by the University of Nebraska - Lincoln.

Name of student \_\_\_\_\_ Grade \_\_\_\_\_

Signature of parent/guardian \_\_\_\_\_ Date \_\_\_\_\_

**Please have your child return this form to his/her teacher within the next three days ONLY if you DO NOT wish him/her to participate. Thank you.**





**INFORMED CONSENT TO PARTICIPATE IN RESEARCH  
YOU ARE BEING ASKED TO VOLUNTEER FOR A  
STUDY**

**Parent Informed Consent**

**CHILD PARTICIPANT'S NAME:** \_\_\_\_\_

**TITLE:** Early Career Development Project: Pilot Study 1.

**THE PERSON IN CHARGE OF THE STUDY IS:** Dr. Michael Hebert

We invite your child to take part in a research study being conducted at the University Nebraska Lincoln, Lincoln, NE. It is important that you read and understand several general principles that apply to all who take part in this research study: (a) taking part in this study is entirely voluntary; (b) your child may not benefit directly as a result of taking part in this study, but knowledge may be gained that might benefit others; (c) you are free to withdraw your child from the study at any time without adversely affecting your relationship with the investigator or the University of Nebraska-Lincoln; (d) leaving the study will not cause a penalty or loss of any benefits to which you are otherwise entitled. You will be given a copy of the signed consent form to keep and we will put one in our files. The nature of the study, the risks, inconveniences, discomforts and other information about the study are discussed below.

**1) WHY ARE WE DOING THIS RESEARCH STUDY?**

The purpose of this research study is to assess the effects on reading comprehension of an intervention that teaches students five text structures used by authors to organize information in expository text (i.e., content area textbooks). An awareness of the text structures used by authors enables students to mentally organize and recall important information being conveyed by the author. This project will involve approximately 160 4<sup>th</sup> and 5<sup>th</sup> grade students experiencing reading difficulties from six parochial elementary schools.

**2) WHY IS YOUR CHILD BEING SELECTED TO PARTICIPATE?**

Your child is being invited to participate because he/she is enrolled in a 4<sup>th</sup> or 5<sup>th</sup> grade classroom and has scored at the 30<sup>th</sup> percentile or lower on a reading comprehension screening measure that was administered to all students in the classroom. If you provide consent for your child to participate, we will administer a norm-referenced measure of decoding skills. Your child will be eligible for participation in the study if they achieve a Grade Equivalent score of 2.0 or higher on the subtest. This level of decoding ability is necessary for your child to benefit from the instruction. We anticipate that most children will achieve this level of decoding. However, we will notify you if they do not.

Eligible children will be randomly assigned (same as a coin flip) to receive instruction in text structures or to continue to participate in regular classroom activities.

**3) HOW LONG WILL YOU AND YOUR CHILD'S PARTICIPATION IN THIS STUDY LAST?**

Your child's teacher will specify the schedule, but the lessons will likely take place during the classroom's literacy block. The estimated total time for instruction under the intervention condition is 4 hours. We also will administer three curriculum-based and one norm-referenced measure prior to and after the instruction. The estimated total time for measurement is 3 hours. This time will be scheduled by your child's teacher to minimize disruption to your child's educational program.

**4) WHERE WILL THE STUDY BE DONE?**

The study is being done in a teacher designated area in the school.

**5) WHAT DOES IT MEAN IF YOU CONSENT FOR YOUR CHILD TO BE IN THE STUDY?**

In addition to allowing research staff to administer the norm-referenced decoding measure to determine if your child is eligible for participation, you are agreeing to the random assignment of your child to text structure instruction or to continue to participate in regular classroom activities. Children assigned to receive the text structure instruction will participate in eight instructional sessions 25-30 minutes in length. Your child's school has agreed to implement the text structure intervention, so this will occur as part of your child's reading/language arts instruction. We will also observe and audiotape the teacher's implementation of the intervention.

Your consent also allows your child, regardless of experimental condition assigned, to participate in the assessments prior to and following the intervention period. In addition to demographic information (i.e., date of birth, gender, ethnicity/minority status, free and/or reduced lunch status, and special education status), students will be administered three curriculum-based measures and one norm-referenced measure of reading comprehension. The researchers will have access to the data and will use it for analyses related to the effects of the intervention. Your child's name will be kept confidential through the use of a study identification number.

With the exception of the time taken to administer the assessments, your child will not be missing out on any instruction. The study has been designed to fit naturally within the instruction provided to students in the classroom.

**6) ARE ANY OF THE PROCEDURES BEING USED IN THIS STUDY EXPERIMENTAL?**

All of the lesson activities used in this study are often used by teachers.

**7) WHAT ARE THE POSSIBLE RISKS OF BEING IN THIS STUDY?**

We do not anticipate any risks with study participation.

**8) WHAT ARE THE POSSIBLE BENEFITS OF PARTICIPATING?**

There may be no direct benefit to you for allowing your child to participate in the study. Society benefits may include a better understanding of instructional approaches that teachers can use to improve the expository text structure knowledge and reading comprehension of students.

**9) WHAT COMPENSATION WILL YOU OR YOUR CHILD RECEIVE FOR PARTICIPATING IN THE STUDY?**

No compensation for your or your child's participation is provided.

**10) WHAT WILL HAPPEN IF YOU DECIDE YOU DO NOT WANT YOUR CHILD TO CONTINUE IN THIS STUDY?**

Participation in this study is voluntary. You may withdraw your consent for your participation in this study at any time. Contact Dr. Hebert at michael.hebert@unl.edu; 402-472-3306 if you wish to withdraw your consent for your participation.

**11) HOW WILL THE INFORMATION COLLECTED BE KEPT CONFIDENTIAL?**

Only the consent form will contain your name. This information will be kept in a locked drawer in a secure research lab. This information will be available only to the project staff and will be destroyed following the completion of the project. Your child's data will not include any identifying information. This information will be stored on a secure server for five years for research purposes.

**12) WHO DO I CONTACT REGARDING QUESTIONS ABOUT THIS RESEARCH PROJECT?**

Your rights as a research participant have been explained to you. As has been explained, you always may ask any questions concerning this research and have those questions answered before agreeing to participate in the study and during the study. The principal investigator can be reached by email or telephone at; michael.hebert@unl.edu; 402-472-3306. Please contact the investigator if you have any concerns or complaints about the research or in the event of a research related injury. Please contact the University of Nebraska-Lincoln Institutional Review Board at (402) 472-6965 to talk to someone other than the research staff to obtain answers to questions about your rights as a research participant, to discuss concerns or complaints about the research, to provide input concerning the research process, or in the event the study staff could not be reached.

Participation in this study is voluntary. You are free to decide not to enroll in this study. You can withdraw your consent for your participation at any time without harming your or your child's relationship with the researchers or the University of Nebraska-Lincoln or your school, or in any way receive a penalty or loss of benefits to which you are otherwise entitled.

*Early Career Development Project: Pilot Study 1.***Documentation of informed consent**

**You are voluntarily making a decision whether or not to allow your child to participate in the research study. Your signature certifies that you have decided to allow your child to participate having read and understood the information presented. You will be given a copy of this consent form to keep for your records.**

I have read the explanation about this study and have been given the opportunity to discuss it and to ask questions. I hereby give permission for my child to take part in this study.

---

Signature of Parent/Guardian

---

Date Signed

Michael Hebert, Ph.D.  
University of Nebraska, Lincoln  
Lincoln, NE 68583-0732  
Telephone: 402-472-3306  
Email: michael.hebert@unl.edu





### **Treatment Intervention Teacher Consent Form**

Title: Early Career Development Project: Pilot Study 1.

**THE PERSON IN CHARGE OF THE STUDY IS:** Dr. Michael Hebert

We invite you to take part in a research study being conducted at the University Nebraska Lincoln, Lincoln, NE. It is important that you read and understand several general principles that apply to all who take part in this research study: (a) taking part in this study is entirely voluntary; (b) you may not benefit directly as a result of taking part in this study, but knowledge may be gained that might benefit educators; (c) you are free to withdraw from the study at any time without adversely affecting your relationship with the investigator, or the University of Nebraska-Lincoln, (d) leaving the study will not cause a penalty or loss of any benefits to which you are otherwise entitled. You will be given a copy of the signed consent form to keep and we will put one in our files. The nature of the study, the risks, inconveniences, discomforts, and other important information about the study are discussed below.

#### **1) WHY ARE WE DOING THIS RESEARCH STUDY?**

The purpose of this research study is to assess the effects on reading comprehension of an intervention that teaches students five text structures used by authors to organize information in expository text (i.e., content area textbooks). An awareness of the text structures used by authors enables students to mentally organize and recall important information being conveyed by the author. This project will involve approximately 160 4<sup>th</sup> and 5<sup>th</sup> grade students experiencing reading difficulties from six parochial elementary schools. Students will be randomly assigned (same as a coin flip) to receive instruction in text structures or to continue to participate in regular classroom activities. Parents will consent to let their child participate in the research project.

#### **2) WHY ARE YOU BEING SELECTED TO PARTICIPATE?**

You are being invited to participate because you are a teacher that has been identified to provide supplementary instruction in expository text structures.

#### **3) HOW LONG WILL YOUR PARTICIPATION IN THIS STUDY LAST?**

Your involvement in this research involves completing a demographic survey, participating in an intervention training session, and delivering 8 instructional sessions. The maximum amount of time is estimated at six hours over a three week period.

#### **4) WHERE WILL THE STUDY BE DONE?**

The study is being done in a teacher designated area in the school.

#### **5) WHAT WILL HAPPEN DURING THE STUDY?**

You will complete a brief questionnaire about your teaching background, participate in an intervention training session, and deliver 8 instructional sessions. You will also be observed and audiotaped while teaching. Following a short training session (2 hours), you will start the implementation of intervention. The intervention has 8 lessons (i.e., 25-30 minutes in length).



**6) ARE ANY OF THE PROCEDURES BEING USED IN THIS STUDY EXPERIMENTAL?**

All of the lesson activities used in this study are often used by teachers.

**7) WHAT ARE THE POSSIBLE RISKS OF BEING IN THIS STUDY?**

We do not anticipate any risks with study participation.

**8) WHAT ARE THE POSSIBLE BENEFITS OF PARTICIPATING?**

There may be no direct benefit to you for volunteering to participate. Society benefits may include a better understanding of instructional approaches that teachers can use to improve the expository text structure knowledge and reading comprehension of students.

**9) WHAT COMPENSATION WILL YOU RECEIVE FOR PARTICIPATING IN THE STUDY?**

No compensation for your participation is provided.

**10) WHAT WILL HAPPEN IF YOU DECIDE YOU DO NOT WANT TO CONTINUE IN THIS STUDY?**

Participation in this study is voluntary. You may withdraw your consent for your participation in this study at any time. Contact Dr. Hebert at [michael.hebert@unl.edu](mailto:michael.hebert@unl.edu); 402-472-3306 if you wish to withdraw your consent for your participation.

**11) HOW WILL THE INFORMATION COLLECTED BE KEPT CONFIDENTIAL?**

Only the consent form will contain your name. This information will be kept in a locked drawer in a secure research lab. This information will be available only to the project staff and will be destroyed following the completion of the project. Your demographic and classroom literacy survey will not include any identifying information. This information will be stored on the server for five years for research purposes.

**12) WHO DO I CONTACT REGARDING QUESTIONS ABOUT THIS RESEARCH PROJECT?**

Your rights as a research participant have been explained to you. As has been explained, you always may ask any questions concerning this research and have those questions answered before agreeing to participate in the study and during the study. The principal investigator can be reached by email or telephone at; [michael.hebert@unl.edu](mailto:michael.hebert@unl.edu); 402-472-3306. Please contact the investigator if you have any concerns or complaints about the research or in the event of a research related injury. Please contact the University of Nebraska-Lincoln Institutional Review Board at (402) 472-6965 to talk to someone other than the research staff to obtain answers to questions about your rights as a research participant, to discuss concerns or complaints about the research, to provide input concerning the research process, or in the event the study staff could not be reached.

Participation in this study is voluntary. You are free to decide not to enroll in this study. You can refuse to withdraw your consent for your participation at any time without harming your relationship with the researchers or the University of Nebraska-Lincoln or your school, or in any way receive a penalty or loss of benefits to which you are otherwise entitled.



# **DOCUMENTATION OF INFORMED CONSENT**

**YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THE RESEARCH STUDY. YOUR SIGNATURE CERTIFIES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ AND UNDERSTOOD THE INFORMATION PRESENTED. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP FOR YOUR RECORDS.**

**I have read the explanation about this study and have been given the opportunity to discuss it and to ask questions. I hereby give permission to take part in this study.**

\_\_\_\_\_  
Signature of Teacher

\_\_\_\_\_  
Date Signed

**Following the study, would you be willing to be contacted to answer questions about the utility and ease of use of the *Structures* program and all instructional materials?**

*Please initial one:*

\_\_\_\_\_ **Yes, I would be willing to be contacted to answer questions about the program.**

\_\_\_\_\_ **No, please don't contact me to answer questions about the program.**

\_\_\_\_\_  
Signature of Principal Investigator  
Michael Hebert, Ph.D.  
University of Nebraska, Lincoln  
Lincoln, NE 68583-0732  
Telephone: 402-472-3306  
Email: michael.hebert@unl.edu

\_\_\_\_\_  
Date Signed

## **APPENDIX B**

### **STUDENT DEMOGRAPHIC SURVEY**



## STUDENT DEMOGRAPHIC SURVEY

### Expository Text Structure Study 2014-2015

Thank you for participating in the *Expository Text Structure* study. As part of the study we will be summarizing demographic information about our participants.. No personal or identifiable information will be shared, as we will only summarize data using averages. Thank you.

**Student**

**i.d.** \_\_\_\_\_

**School** \_\_\_\_\_

**1. GRADE:**

☐ 4th

☐ 5th

**2. GENDER:**

☐ Male

☐ Female

**3. QUALIFIES FOR FREE OR REDUCED LUNCH:**

☐ Yes

☐ No

**4. QUALIFIES FOR SPECIAL EDUCATION:**

☐ Yes

☐ No

**5. ETHNICITY**

☐ African American

☐ Asian

☐ Caucasian

☐ Hispanic

☐ Hawaiian/Pacific Islander

☐ Native American

☐ multi-racial

☐ other

**APPENDIX C**

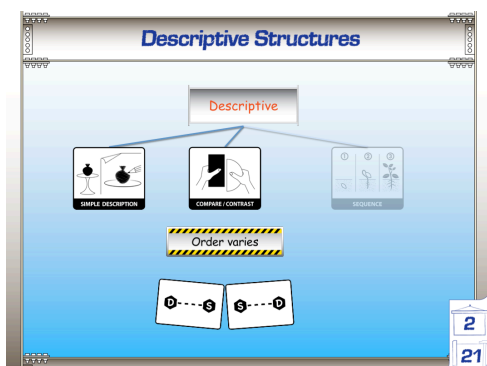
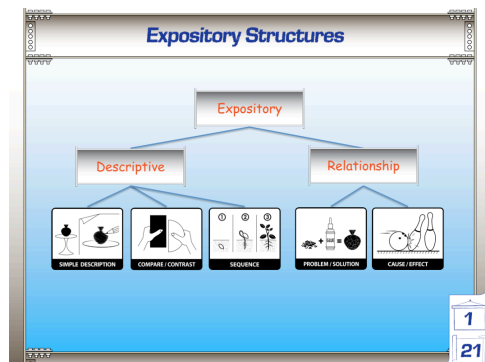
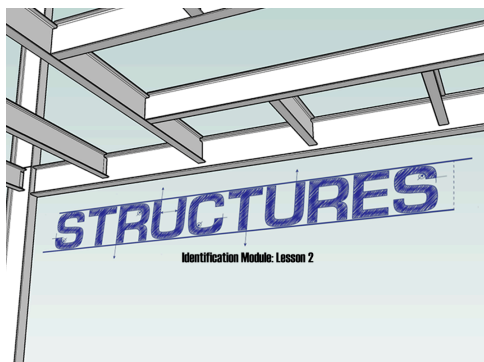
**SAMPLES OF PROGRAM MATERIALS**

**POWERPOINT PRESENTATION (LESSON 2)**


**STUDENT RESPONSE BOOK (FRONT MATTER AND LESSON 2)**

**PROGRAM MANUAL (PROGRAM OVERVIEW AND LESSON 2)**

## PowerPoint Presentation (Lesson 2)





**What is the author's intent?**

 **COMPARE/CONTRAST**

Have you ever wondered how lunches today compare to those of children in the 1800s? Students in the 1800s ate sandwiches like students today. However, they were not made with peanut butter and jelly. They were made with syrup or lard. Students in the 1800's also carried lunches to school like students today. They used tin lunch pails rather than plastic or insulated lunch boxes.

**6**  
**22**

**What is the author's intent?**



 **SIMPLE DESCRIPTION**  **COMPARE/CONTRAST**

Nomadic Plains Indians used a travois to move their tipis. A dog or horse pulled the travois. A travois was made of two poles. One end of the poles was tied together. The other ends dragged on the ground behind the animal. A wooden platform or netting was placed on the poles. The platform was used to hold the tipi cover, food, or tools. Sometimes, even little children might ride on a travois.

a) Simple Description  
b) Compare/Contrast

**7**  
**23**

**What is the author's intent?**




 **SIMPLE DESCRIPTION**  **COMPARE/CONTRAST**

Pioneers traveling the Oregon Trail had to choose between horses and oxen to pull their wagons. Horses moved faster, but were not as sturdy as oxen. They also were more expensive and needed better food. Oxen moved slowly but were less expensive. They pulled heavier loads and ate grass along the trail. However, oxen could be very stubborn. Choosing the right animals to pull their wagons was a tough decision for pioneer families.

a) Simple Description  
b) Compare/Contrast

**8**  
**23**

**What is the author's intent?**




 **SIMPLE DESCRIPTION**  **COMPARE/CONTRAST**  **INFER**

1) \_\_\_\_\_ Tornadoes and hurricanes are large storms. They have high winds that cause damage. They both have low air pressure. Hurricanes are larger than tornadoes. They cover hundreds of miles and form over oceans. Tornadoes are smaller and form over land. Hurricanes are made up of many thunderstorms. Tornadoes have one thunderstorm.

a) Simple Description  
b) Compare/Contrast

**9**  
**24**

**What is the author's intent?**

 **SIMPLE DESCRIPTION**  **COMPARE/CONTRAST**  **INFER**

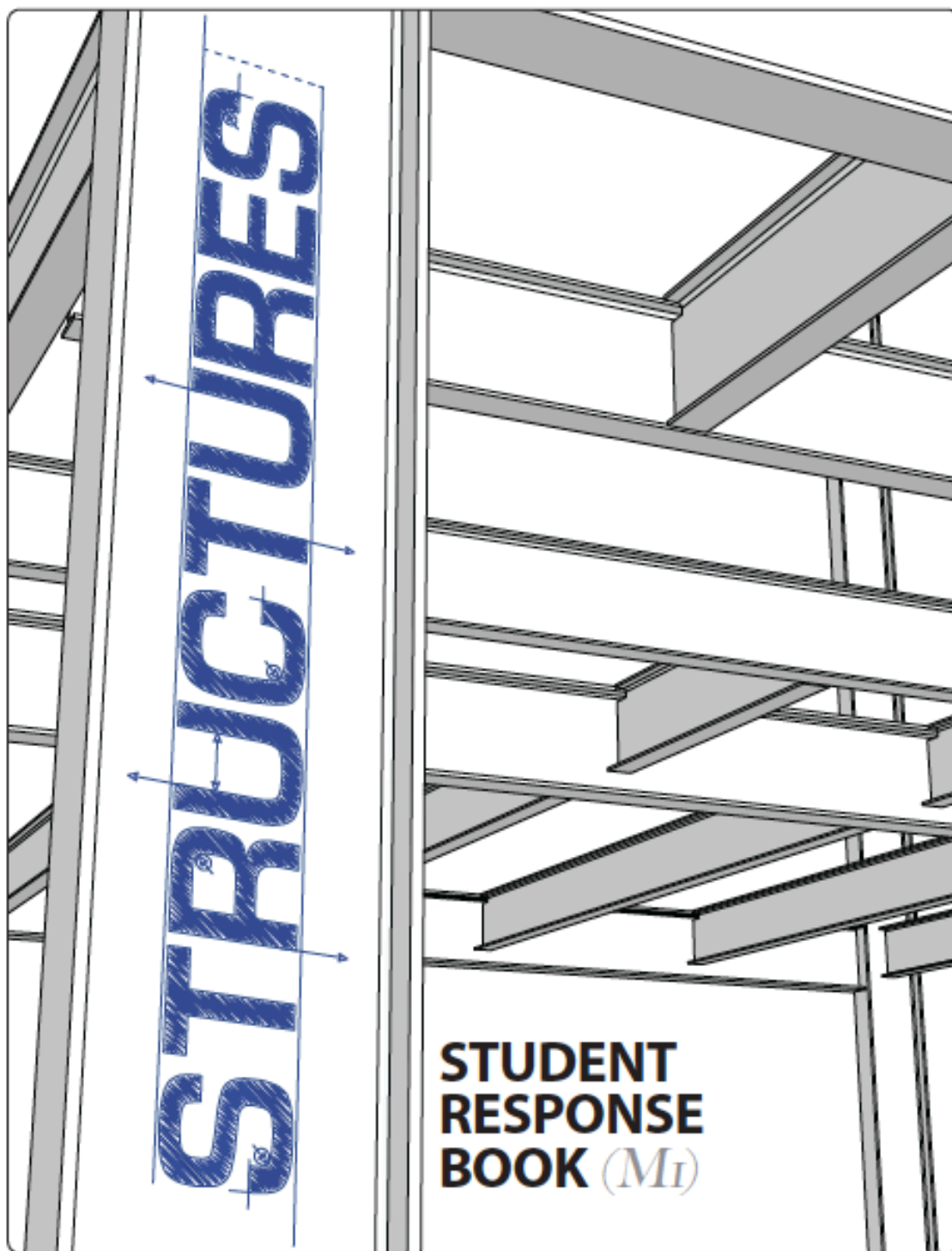
2) \_\_\_\_\_ Flowers have four parts. Petals are the easiest to see. They are large and colorful. Sepals are directly underneath the petals. They are often green. The pistil is the long part of the flower that sticks out of the center. The stamen is located around the pistil. Their ends look like antlers.

a) Simple Description  
b) Compare/Contrast

**10**  
**24**

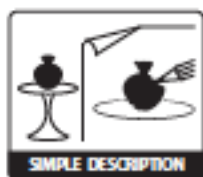
## Student Response Book (Front Matter and Lesson 2)

Student Name \_\_\_\_\_



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## Simple Description

The author's intent is to tell us about the important characteristics of something. You use your five senses to know about it.

### ***Sample Passage: Simple Description***

Pill bugs are arthropods. All arthropods have jointed legs. Pill bugs have seven pairs of jointed legs. They also have an outer skeleton covering their bodies. Some pill bugs have a dark brown head with a stripe down the center of their back. The pill bug can roll up and squeeze under things like wood or small rocks.

This is a *Simple Description* passage because the author's intent is to describe what Pill Bugs look like.



## Compare/Contrast

The author's intent is to describe a connection between two things. They make connections by telling us similarities or differences.

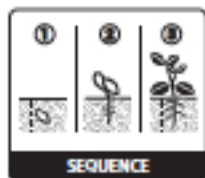
*Variations in Order:* The author can talk about the similarities first or the differences first.

### ***Sample Passage: Compare/Contrast***

Have you ever wondered how lunches today compare to those of children in the 1800s? Students in the 1800s ate sandwiches like students today. However, they were not made with peanut butter and jelly. They were made with syrup or lard. Students in the 1800's also carried lunches to school like students today. They used tin lunch pails rather than plastic or insulated lunch boxes.

This is a *Compare/Contrast* passage because the author is describing the similarities and differences between lunches today and lunches in the past.





### Sequence (Steps, Cycle, or Timeline)

The author's intent is to describe the order in which things happen. There are three types of Sequence: steps, cycle, and timeline. Regardless of the type, the author is putting information in an order.

Steps: The author's intent is to tell us the order that tasks have to be completed to get something done.

Cycle: The author's intent is to tell us the order in which the same set of events happen again and again.

Timeline: The author's intent is to tell us the order in which events happened over time.

#### ***Sample Passage : Sequence — Cycle***

Pioneers built their own sod houses. The first step was finding grass with densely packed roots. Then, pioneers used a plow to cut the sod into bricks. The bricks were 4-inches thick. The bricks were then laid to form walls. The grass side of the bricks always faced down. Finally, a lumber roof was constructed after the walls were completed.

This is a *Sequence* passage because the author is describing the steps pioneers used to build sod houses.



## Problem/Solution

The author's intent is to tell us how a problem might be solved. The relationship is between the problem and a potential solution.

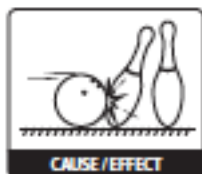
*Variations in Order:* The author can talk about the problem first or the solution first.

*Variations in Number:* There can be more than one problem or possible solutions.

### **Sample Passage: Problem/Solution**

Physical measurement plays a key role in science. However, many different measurement systems are used worldwide. This creates a problem when scientists share measurements. It requires scientists to convert measurements when they use different systems. To address this problem, all scientists worldwide use the metric system. This eliminates the need to make conversions.

This is a *Problem/Solution* passage because the author is telling us how the use of the metric system was a solution for the problem scientists had when trying to share measurements.

**Cause/Effect:**

The author's intent is to tell us how an event always leads to an outcome. The event is the cause and the outcome is the effect. The relationship is between the cause and the effect.

*Variations in Order:* The author can talk about the cause first or the effect first.

*Variations in Number:* There can be more than one cause or effect.

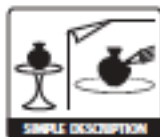
**Sample Passage: Cause/Effect**

Temperature has an effect on liquids. Heating liquids can change them into gases. The heat causes the molecules in liquids to move faster. It also makes them move farther apart. Liquids become gases when the molecules get fast enough and far enough apart.

This is a *Cause/Effect* passage because the author is telling us how temperature causes liquids to change.



## Student Activities for Lesson 2



Directions: Identify the text structure of the passage.

1.

\_\_\_\_\_ Tornadoes and hurricanes are large storms. They have high winds that cause damage. They both have low air pressure. Hurricanes are larger than tornadoes. They cover hundreds of miles and form over oceans. Tornadoes are smaller and form over land. Hurricanes are made up of many thunderstorms. Tornadoes have one thunderstorm.

a) *Simple Description*

b) *Compare/Contrast*

2.

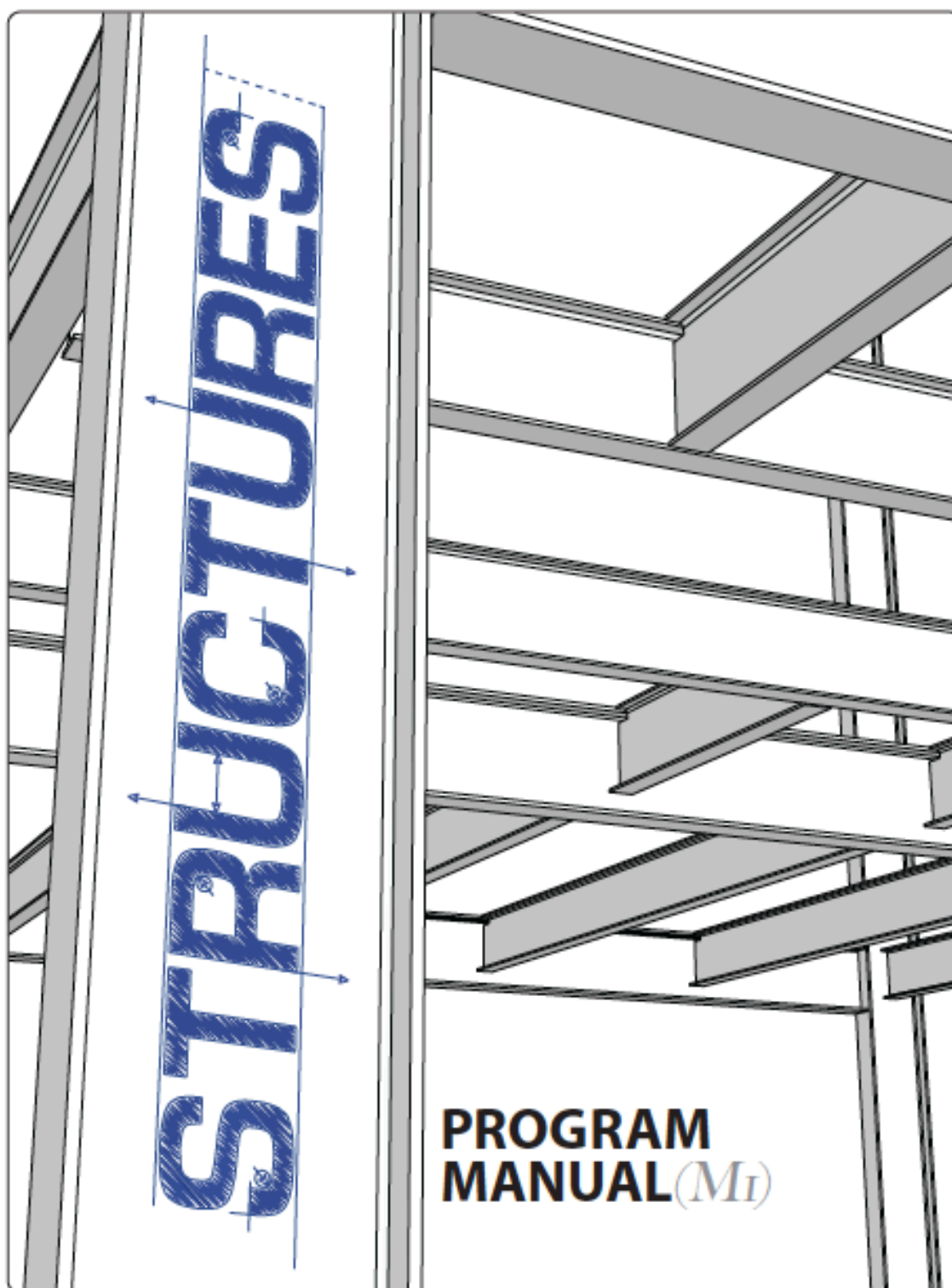
\_\_\_\_\_ Flowers have four parts. Petals are the easiest to see. They are large and colorful. Sepals are directly underneath the petals. They are often green. The pistil is the long part of the flower that sticks out of the center. The stamen is located around the pistil. Their ends look like antlers.

a) *Simple Description*

b) *Compare/Contrast*

**END OF LESSON**

Student Response Book (Front Matter and Lesson 2)



## Preface

We would like to thank the teachers of Lincoln Public Schools who have contributed valuable insights into the development of this version of the *Structures* program. Their thoughtful critiques have helped us to refine our thinking about how best to teach text structures to struggling readers. We look forward to our continued collaboration.

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## Program Overview

Text structure refers to the internal organization of a text used by authors to organize, arrange, and connect important things, ideas, and concepts they want you to understand. The five text structures taught in *Structures* are based on those identified by Meyer (1975): Simple Description, Compare/Contrast, Sequence, Problem/Solution, and Cause/Effect. Authors of informational or expository text may use one text structure or several depending upon how they want to organize, arrange, and connect the important things, ideas, and concepts they want students to understand. Therefore, it is important to teach all five text structures simultaneously and within the context of one another.

*Structures* organizes the text structures into two major categories to facilitate teaching and learning. The two text structures categories are Descriptive and Relationship. Authors use Descriptive structures when their intent is to help the reader *visualize or learn important details* about the topic they are writing about. Authors use Relationship structures when their intent is to help the reader understand how some ideas or things *naturally depend* on one another.

### Descriptive text structures:

Simple Description — The author's intent is to tell us about something. They use characteristics or facts to describe it.

Compare/Contrast — The author's intent is to make a connection between two things. They make connections by telling us similarities or differences.

Sequence — The author's intent is to tell us the order things happen. There are three types of Sequence: steps, cycle, and timeline. Regardless of the type, the author is putting information in an order.

### Relationship text structures:

Cause/Effect — The author's intent is to tell us how an event leads to an outcome. The cause always results in the effect.

Problem/Solution — The author's intent is to tell us how a problem might be solved. The solution may or may not be used.

We acknowledge that Compare/Contrast is sometimes thought of as a relationship between two things. However, we do not include it as a Relationship text structure because ideas or things are not naturally dependent on one another. Rather, authors construct the comparison to help the reader visualize or learn the important details about a topic.



### Overall Instructional Model

*Structures* is a supplemental standard protocol intervention targeted at fourth grade struggling readers or those students who teachers believe would benefit from instruction on expository text structures. The time of instruction for each lesson ranges from 25 to 30 minutes. *Structures* can be used by a wide array of educators and in a number of instructional situations, including large and small groups within the core literacy block, special education and literacy support classrooms, and individually.

#### Content:

The instructional passages used in *Structures* were written by content area teaching experts in science, social studies, and history to highlight specific attributes of each of the five text structures. The program is designed to transition students from passages with obvious structures to passages that are more similar to text encountered in content area textbooks. The intent of *Structures* is not to teach content area topics. Rather, the content area passages are varied across instructional lessons to ensure students can generalize instruction to all content areas.

#### Reading Levels:

The Lexile Levels of the instructional passages generally range from 445L to 810L. These represent the Lexile Levels for the 25th and 75th percentiles at the fourth grade level (*Lexile.com*). Lower-level passages are used for all student exercises, whereas higher-level ones are used for modeling and scaffolding by teachers.

#### Modular Approach:

*Structures* uses a sequential modular instructional model to enhance student learning by focusing on three sets of concepts and skills necessary to fully comprehend expository text (See Table 1). This modular approach also allows teachers to target concept and skill areas they see as being most beneficial to the students they teach.

Table 1. Concepts and Skills Taught in Modules 1, 2, and 3.

Module	Concepts and Skills Taught	Number of Lessons
1	Identify and Discriminate Expository Text Structures	8
2	Utilize Information Frames to Enhance Understanding Expository Text	15
3	Construct Extended Responses for Analyzing and Interpreting Expository Text	?

We suggest teachers use all three modules with students that do not have knowledge of text structures or how to use them to comprehend or analyze and interpret text. Module 1 is not necessary for students who can identify text structures. In this case, teachers may elect to use Modules 2 and/or 3 depending on the needs of their students.

## Module 1 • Quick-Start Guide • Program Overview

### Instructional Phases

A three-stage gradual release instructional sequence is used to teach students the text structures: (1) discussion/model, (2) guided practice, and (3) independent practice (described in Table 2). Throughout the program, guided and independent practice can be used flexibly, depending on the need to scaffold learning for students. We recommend a minimum of three lessons per week be taught to students continuously across the module(s).

Table 2. Description of the Instructional Approach.

Instructional Phase	Description
Discussion/Model	Teacher uses examples to describe, identify, and discriminate text structures.
Guided Practice	Teacher leads students to practice identifying and discriminating text structures.
Independent Practice	Teacher checks students' independent ability to identify and discriminate text structures.

### Primary Instructional Tools

*Structures* includes four integrated instructional tools: 1) Teacher manual, 2) Technology-enhanced Presentation, 3) Student Response Book, and 4) Mastery Assessments.

1. *Teacher Manual*: The manual has two sections. The first section provides background on the text structures taught and the instructional approach used in the program. The second section is a Quick-Start Guide for each lesson, and is provided to guide teachers' instruction. The Quick-Start Guide can be used to preview, guide, or review lessons.

#### Instructional scaffolds:

- The lesson guide is broken into distinct, stand-alone lesson guides for ease of use during the lesson.
- The lesson number is clearly identified on all pages of the guide.
- The information to be covered is provided in clearly identified boxes that correspond to each slide view in the Technology-enhanced Presentation. For example, view one in the teacher presentation is labeled View 1 in the Quick-Start guide.
- Think-alouds are provided when complex concepts are taught to facilitate the teacher's presentation and student understanding.
- The teacher action corresponding to the gradual release instructional model is clearly identified in each view (i.e., Communicate, Discuss, Model, Practice)

2. **Technology-enhanced Presentation:** The presentation enables teachers to display and interact with the lessons shared from their computer via a digital projector. The presentation is also available in a PDF format that can be printed and used in a paper-pencil presentation format. The presentation has been developed as a movie with a clickable format that is controlled by the teacher, similar to a PowerPoint. It includes all of the stimuli needed in all instructional phases (e.g., modeling, guided practice, and independent practice). This includes all definitions, modeling passages, and exercises that correspond to the student response book.

#### Instructional scaffolds for teachers and students:

- The look of the presentation changes from a color background to a white-page background when the activity requires a student response (i.e., *guided or independent practice*), Figure 1.

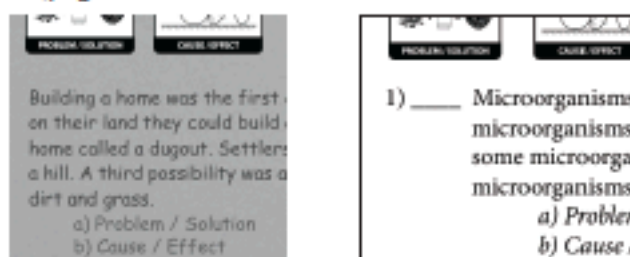


Figure 1: Background and font changes to give students additional cues

- Page numbers and item numbers corresponding to the activities in the Student Response Book are located in the lower right hand corner of slides.
3. **Student Response Book:** Includes all necessary guided and independent practice activities. The activities are organized by lesson to facilitate ease of use. It also includes a reference section for important content information.
  4. **Mastery Assessments:** (In development). The measures will enable teachers to place students in the appropriate instructional module and assess mastery of the concepts and skills taught in Modules 1, 2, and 3. Tracking forms will be provided for recording student performance.

#### Special Integrative Feature

Icons representing the five text structures are used throughout *Structures*. These icons are used to scaffold student learning of the author's intent during instruction. They are also used in the measures to help facilitate student's understanding of the response requirements. The icons and associated child friendly descriptions follow:



**Simple Description Icon:** The icon helps us remember the author's intent when using a Simple Description text structure. The picture represents the idea we have in our mind about the thing the author is describing and its important characteristics.

## Module 1 • Quick-Start Guide • Program Overview



**Compare and Contrast Icon:** The icon helps us remember the author's intent when using a Compare/Contrast text structure. The two objects being held by the hands represent what the author is comparing and contrasting. We can see how the objects are similar and different.



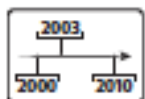
**Sequence Icon:** The icon helps us remember the author's intent when using a sequence text structure. The plant shown in three stages of development represents a sequence of events the author is describing.



**Steps Icon:** This picture represents a sequence of steps that has to be completed in order from the first step to the last step.



**Cycle Icon:** This picture represents a sequence of events that occur continuously. When the sequence ends, it begins all over again.



**Timeline Icon:** This picture represents a sequence of events that occur over a period of time.



**Cause and Effect Icon:** The icon helps us remember the author's intent when using a Cause and Effect text structure. The bowling ball represents the event that causes something to happen. The pins represent the outcome, or effect.



**Problem and Solution Icon:** The icon helps us remember the author's intent when using a Problem and Solution text structure. The broken pieces represent the problem that the author is telling us about. The glue represents one possible way the problem could be solved.



## Lesson 2

### Teaching Simple Description And Compare/Contrast



**COMMUNICATE**

*Lesson goal:* Describe and discriminate (tell the difference) between Simple Description and Compare/Contrast text structures.

**CONNECT TO PREVIOUS LESSON**

Review five text structures used by authors of informational text.

**COMMUNICATE**

Today's lesson focuses on Simple Description and Compare/Contrast text structures.

- *Note:* In the case of Compare/Contrast, the author can talk about the similarities first or the differences first.

**DISCUSS**

Introduce the definition of Simple Description.

- *Definition of Simple Description:* presented on screen.
- *Icon:* The picture represents the idea we have in our mind about the thing the author is describing.

**CONTINUE →**



4

**MODEL**

Identify elements of Simple Description.

- *Thing described:* Pill Bugs
- *Characteristics:* Jointed legs, outer skeleton, color

5

**DISCUSS**

Introduce the definition of Compare/Contrast.

- *Definition of Compare/Contrast:* presented on screen.
- *Icon:* The icon helps us remember the author's intent when using a Compare/Contrast text structure. The two objects being held by the hands represent what the author is comparing and contrasting. We can see how the objects are similar and different.

6

**MODEL**

Identify elements of Compare/Contrast.

- *Things compared and contrasted:* lunches today — lunches in 1800's
- *Similarities:* sandwiches, carried lunches
- *Differences:* what sandwiches were made of, how lunches were carried

**CONTINUE →**

7

**MODEL**

Discriminate between Simple Description and Compare/Contrast.

- Use the Think-Aloud to identify the elements that make the passage a Simple Description Passage.

**THINK-ALoud**

The text structure for this passage is Simple Description. It is Simple Description because the author is describing something and is not explaining how two things are similar and different. The thing the author is describing is a travois. The author is describing the poles and platforms used to make a travois.

8

**MODEL**

Discriminate between Simple Description and Compare/Contrast.

- Identify the elements that make the passage a Compare/Contrast Passage.

**THINK-ALoud**

The text structure for this passage is Compare/Contrast. It is Compare/Contrast because the author is describing how two things are similar and different from one another. They are comparing horses and oxen. They tell us that horses and oxen are similar in that they were both used to pull wagons. They are different in how fast they are, their sturdiness, their cost, and the type of food they eat.

**CONTINUE →**



9

**PRACTICE: GUIDED OR INDEPENDENT**

Discriminate between Simple Description and Compare/Contrast.

- Have students complete the problem in the workbook on p.11.
- Check student responses:

*Type:* Compare/Contrast

*Things being compared:* Tornadoes and Hurricanes

*Similarities:* Large storms, Low air pressure in the center

*Differences:* Size, Where they are formed, Number of Thunderstorms

10

**PRACTICE: GUIDED OR INDEPENDENT**

Discriminate between Simple Description and Compare/Contrast.

- Have students complete the problem in the workbook on p.11.
- Check student responses:

*Type:* Simple Description

*Thing being described:* Flowers

*Characteristics or Facts:* Petals, Sepals, Pistils, Stamen

**END OF LESSON**

**APPENDIX D**

**RESEARCHER-CREATED DEPENDENT MEASURES**

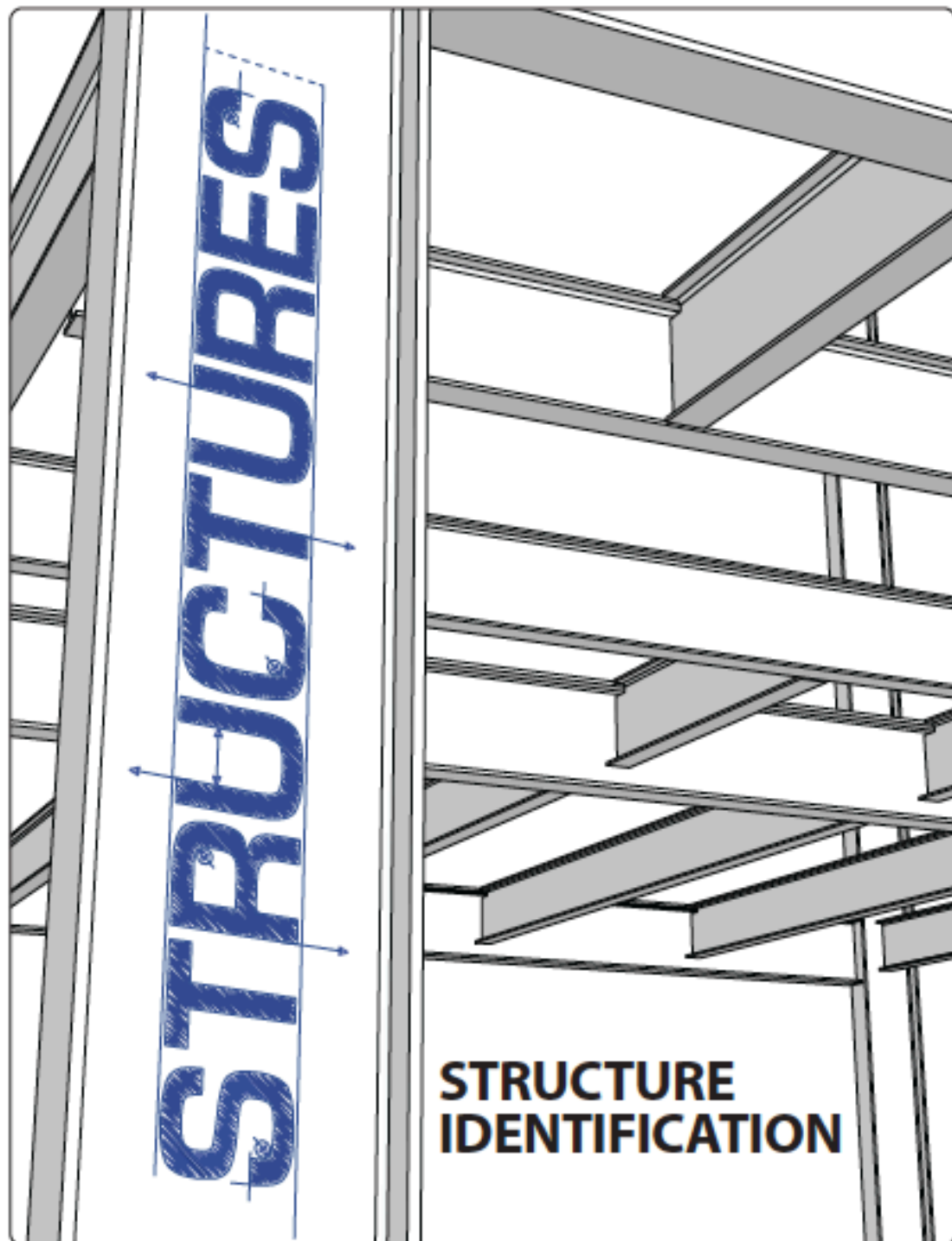
**STRUCTURE IDENTIFICATION MEASURE (FORM A, FORM B)**

**ORAL RETELL PASSAGE**

**ORAL RETELL IDEA UNITS**

**Structures Identification Measure (Form A)**

Student Name \_\_\_\_\_



**Simple Description:**

The author's intent is to tell us about something. They use characteristics or facts to describe it.

**Cause/Effect:**

The author's intent is to tell us how an event leads to an outcome. The cause always results in the effect.

**Sequence:**

The author's intent is to tell us the order things happen. There are three types of Sequence: steps, cycle, and timeline. Regardless of the type, the author is putting information in an order.

**Problem/Solution:**

The author's intent is to tell us how a problem might be solved. The solution may or may not be used.

**Compare/Contrast:**

The author's intent is to tell us about two things. The author tells us how they are the same and different.

Form A



AFFIX HERE

**Directions:**

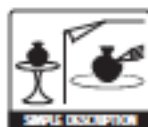
A different text structure is used in each passage. First, read each passage. Next, identify the text structure by filling in the appropriate bubble.



- The western plains are very dry. What causes the dryness? Weather in the United States moves from west to east. Moisture from the Pacific Ocean falls on the western slopes of the Rocky Mountains. The mountains block the rain from going east. As a result, the western plains get little rain.

☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast
- Vegetation is sparse in the desert. Living things must survive with little water because there is not much rainfall. The climate is very dry and hot. The surface of the desert is covered with sand. This makes it difficult for plants to access nutrients.

☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast



3. Making a map is a complex process. First, the mapmaker draws the outline of the land. Then, they add important details like roads, rivers, or mountains. Next, the mapmaker adds a compass rose depicting the cardinal directions. Finally, they create a map key to help people understand the map.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

4. Thousands of Native Americans died when European explorers came to North America. One reason so many Native Americans died was because they were exposed to new diseases. European explorers brought diseases like measles and chicken pox to America. The Europeans had been exposed to these illnesses for a long time, so they were not as deadly to them. The Native Americans lacked immunity, or natural protection. Diseases brought by the explorers sometimes killed almost every member of a village.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



5. John Deere was a blacksmith. He noticed that farmers often brought in their iron plows for sharpening. They complained that soil stuck to the blade. It made the blade dull. They had to stop plowing to clean and sharpen the blade. This gave Deere an idea. He made a plow with a steel blade. It worked better than the old iron plow blades. It stayed clean as it plowed the soil. Deere started to make plows with steel blades for farmers. This helped farmers plow land faster.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

6. Plants that live in the desert must be able to survive with limited water. A desert gets less than ten inches of rain in a year. A cactus stores water in its thick stem. They also grow spines instead of leaves. Spines are much thinner so they don't lose as much water as a plant with leaves. Other plants have roots that go down very deep to gather water. Desert plants also remain dormant during the driest parts of the year. They spring to life when it rains.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



7. The entire digestion process takes between six and eight hours to complete. As you eat, the food moves from the mouth to the stomach. Nutrients then move from the stomach to the small intestine. This is where the nutrients are absorbed. Any left over nutrients enter the large intestine. The amount of time the digestion process takes depends on the type of nutrient.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

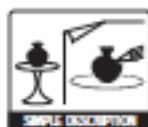
8. Plateaus and mountains are both elevated landforms. Both can be formed by volcanoes or the movement of the earth's crust. You look out at the land far below you. Everything looks so small. How do you know if you're on a plateau or a mountain? Plateaus and mountains are both high above the ground, but they look very different on top. Plateaus have a flat top. Mountains rise in peaks.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

9. Steamboats and trains were major forms of transportation in the mid-1800s. They were used to transport passengers and goods. Trains had some advantages over steamboats. While icy and snowy weather could delay either, ice-clogged rivers stopped steamboat traffic entirely. However, ice did not stop trains from running. Railroads had another advantage. They could be built almost anywhere. Steamboats were confined to rivers.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast





- 10.** The Navajo lived in homes called hogans. Hogans were dome-shaped. They had dirt floors. Most had only one room. The frame of the hogan was made of logs. The logs were covered with branches, leaves, and mud. The door of the hogan would always face east to let in the morning sun.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

- 11.** In the 1800s, reformers began the fight for women's right to vote. The struggle was long and hard. The American women's rights convention was first held at Seneca Falls in 1848. For 10 years, the movement grew. In 1890, the National American Woman Suffrage Association was formed. Women's involvement in World War I helped the movement. In 1920, women gained the right to vote.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



12. Hippocrates is the “Father of Medicine.” He was an ancient physician, surgeon, and influential teacher. Many of his ideas about practicing medicine are followed by physicians today. For example, he started the practice of keeping records of patients’ symptoms. He also taught doctors how to keep patients’ wounds clean.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

13. American colonists had a problem. Even though they left their countries to go to a new land, England still ruled them. Americans still had to pay taxes to England, but they could not make their own rules. Finally, on July 4th, 1776 the colonists signed the Declaration of Independence. Following the Revolutionary War, the colonists no longer had to pay taxes to England.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



- 14.** Asteroids and meteoroids orbit around the sun. Asteroids are large chunks of rock that are too small to be considered planets. Meteoroids are small rock-like chunks. Most meteoroids are the size of a pebble. Most asteroids are found orbiting in between Mars and Jupiter. Meteoroids are found throughout the entire solar system.

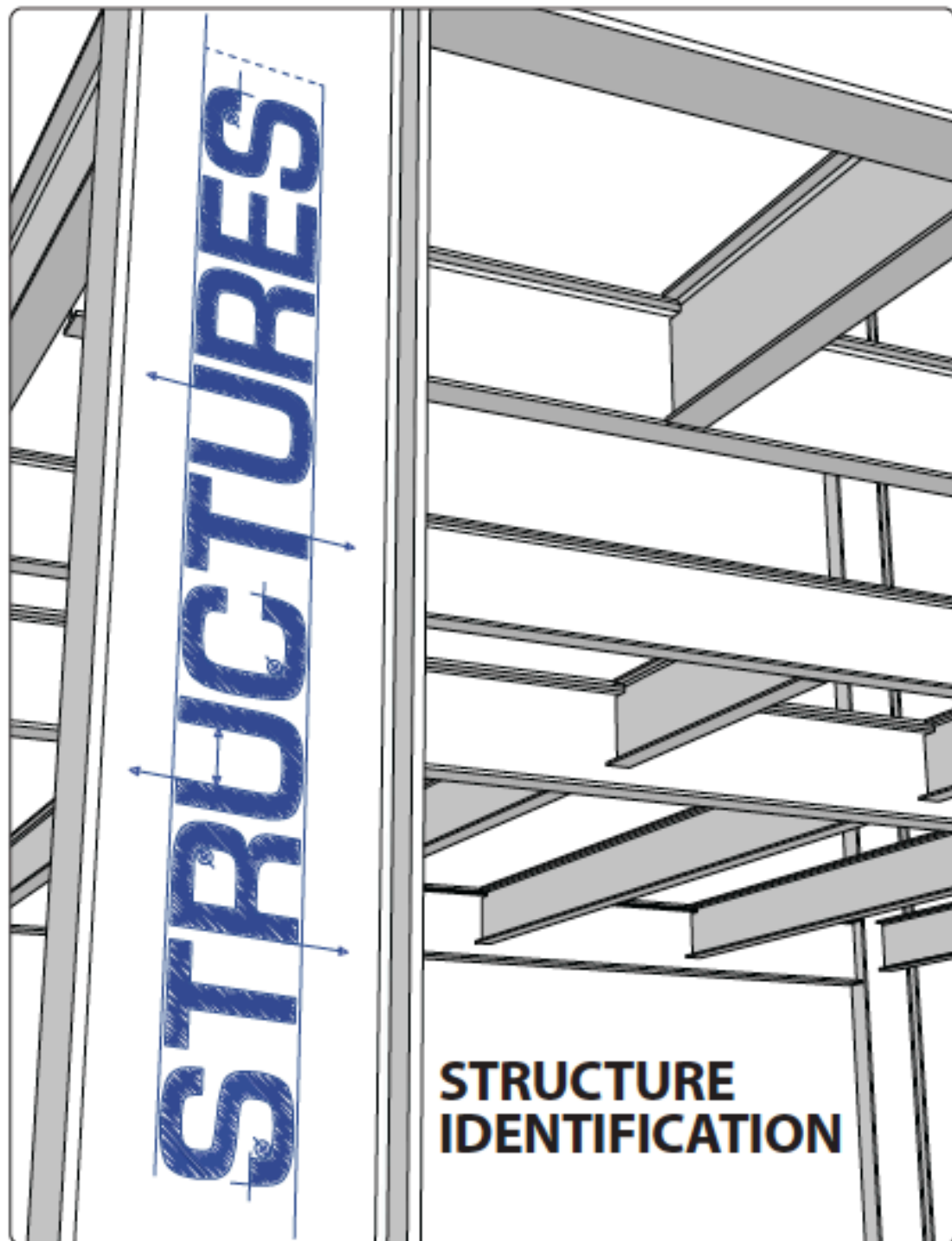
- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

- 15.** Fluctuations in the barn owl population are caused by changes in the rodent population. Barn owls feed on rodents. When the barn owl population increases, the rodent population decreases. The decrease in the rodent population limits the amount of food available for owls. Eventually, the owl population decreases.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

**Structures Identification Measure (Form B)**

Student Name \_\_\_\_\_



**Simple Description:**

The author's intent is to tell us about something. They use characteristics or facts to describe it.

**Cause/Effect:**

The author's intent is to tell us how an event leads to an outcome. The cause always results in the effect.

**Sequence:**

The author's intent is to tell us the order things happen. There are three types of Sequence: steps, cycle, and timeline. Regardless of the type, the author is putting information in an order.

**Problem/Solution:**

The author's intent is to tell us how a problem might be solved. The solution may or may not be used.

**Compare/Contrast:**

The author's intent is to tell us about two things. The author tells us how they are the same and different.

## Form B



AFFIX HERE

**Directions:**

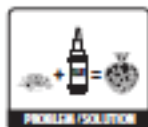
A different text structure is used in each passage. First, read each passage. Next, identify the text structure by filling in the appropriate bubble.



- Mosses were among the first plants to grow on land. Mosses have no true leaves or roots. Rather, moss plants grow in clusters and spread like mats over damp ground and dead trees. Moss can even grow on rocks. Mosses help break up rocks and enrich the soil. The whole plant soaks up water when it rains.

☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast
- There are many diseases that can be fatal. Vaccines can protect people from getting some diseases. Vaccines work by signaling the immune system to make antibodies. The antibodies help people develop immunity to a disease without actually getting it. This is a very helpful solution to many diseases that can possibly be fatal.

☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast

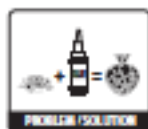


3. By the first decade of the 15th century, people in China were wearing eyeglasses. In 1784 Benjamin Franklin invented bifocals. Bifocals allow people to see objects both close up and far away. In 1888, glass contact lenses were invented. However, they were difficult to wear. In 1980, contact lenses made of soft silicone became popular. People can now easily place silicone contact lenses directly onto the eye.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

4. The constant motion of clothes rubbing together in a dryer creates static electricity. This can cause clothes to cling to your body. Clothes sometimes even stick together. Using dryer sheets is the most common way to solve this problem. You can also use spray to remedy the static electricity. Or you can simply let your clothes air dry.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



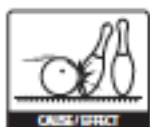
5. Amoebas and paramecia are both protozoa. Both amoebas and paramecia live on plants that live in freshwater, like rivers or ponds. Amoebas are the simplest protozoa. They move around very slowly. They are microscopic and need to be viewed with a microscope. Paramecia are more complex than amoebas. They move around faster than amoebas. Unlike amoebas, paramecia can be seen without a microscope.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

6. Heat can be transferred in three ways: conduction, convection, and radiation. Conduction is the transfer of heat by one thing touching something else. Convection is the movement of heat up and down through fluids and the air. Radiation is the transfer of heat through electromagnetic energy.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



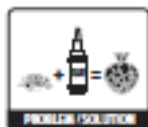
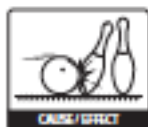


7. When plants and animals die, they decay. Decomposition begins when a dead organism is exposed to air and water. The warmer the temperature, the quicker the decay process occurs. Animals and insects also contribute to decomposition. They feed on the organism if it is exposed.

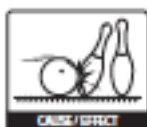
- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast

8. Three different terms are used to describe the amount of light that travels through materials. Materials that don't let light pass through them are called opaque. Walls are opaque because they block light. Materials that let light pass through them easily are called transparent. Windows are transparent because they let in a lot of light. Materials that let some but not all light pass through are translucent. Some curtains are translucent because they let some light pass through them.

- ☐ Simple Description
- ☐ Cause/Effect
- ☐ Sequence
- ☐ Problem/Solution
- ☐ Compare/Contrast



9. Microorganisms that can make you sick travel through the air. When you sneeze, millions of droplets of water and mucus travel through the air. These can land on surfaces that we touch. This is how some diseases are transmitted. In order to prevent this, make sure you wash your hands frequently.
- ☐ Simple Description
  - ☐ Cause/Effect
  - ☐ Sequence
  - ☐ Problem/Solution
  - ☐ Compare/Contrast
10. There are some important things people need to do when they prepare to vote. First, people need to learn about the candidates that are running for election. Then, people must decide who they think will represent people the best. Next, they need to locate the polling place where they cast their vote. Finally, they choose a candidate and record their choice on a ballot.
- ☐ Simple Description
  - ☐ Cause/Effect
  - ☐ Sequence
  - ☐ Problem/Solution
  - ☐ Compare/Contrast
11. The Civil War had many effects on the South. Cities were burned. Factories were destroyed. Farms were trampled. Many families lost sons and fathers. However, the greatest effect came at the end of the war. The United States government passed the Thirteenth Amendment to the United States Constitution. This made slavery illegal. Former slaves became American citizens.
- ☐ Simple Description
  - ☐ Cause/Effect
  - ☐ Sequence
  - ☐ Problem/Solution
  - ☐ Compare/Contrast



- 12.** To power a light bulb with a battery, you need a 9-volt battery, a light bulb and socket, a red wire, and a black. First, screw the light bulb into the socket. Connect the red wire to the positive connection on the socket. Connect the black wire to the negative connection on the socket. Finally, touch the red wire to the positive end of the battery and the black wire to the negative end. The light bulb will light up.

- ☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast

- 13.** Changes in temperature produce wind. The sun heats the surface of the earth. This causes the air near the earth to rise. It rises because warm air is lighter than cool air. When the warm air rises, more air has to take its place, so cool air rushes in. This air movement creates wind.

- ☐ Simple Description  
☐ Cause/Effect  
☐ Sequence  
☐ Problem/Solution  
☐ Compare/Contrast



- 14.** Pioneers in the Great Plains built log cabins or sod houses. Both were small and simple. They usually had one room. Pioneers who owned land with trees built log cabins. They cut the logs from the trees on their land. Pioneers who lived on prairie land built sod houses. Sod houses were made from grass and dirt. Sod houses were harder to keep clean than log cabins.

- ☐ *Simple Description*
- ☐ *Cause/Effect*
- ☐ *Sequence*
- ☐ *Problem/Solution*
- ☐ *Compare/Contrast*

- 15.** The Rockies and Cascades are mountain ranges. They both stretch across the United States and Canada. The Rockies cover more distance than the Cascades. They extend 3,000 miles from New Mexico to British Columbia. The Cascade Range spans 700 miles. The Rockies are also older than the Cascades. Their peaks formed more than 50 million years ago. The mountains in the Cascade Range are active volcanoes.

- ☐ *Simple Description*
- ☐ *Cause/Effect*
- ☐ *Sequence*
- ☐ *Problem/Solution*
- ☐ *Compare/Contrast*

## Oral Retell Passage

STRUCTURES**The Open Road**

Companies that make cars are called automakers. Automakers sell thousands of cars each year. Millions of laborers depend on the automotive industry for their jobs. Automakers rely on many industries to make parts. In fact, one out of every six businesses in America contribute to the automotive industry.

The first cars were built in 1769. They were powered by steam. Cars powered by steam were not safe, and they often broke down. Automakers began using gas engines in their cars in the late 1800s. Although these cars were safer and more reliable, they were more expensive. Henry Ford started the Ford Motor Company in 1903. His goal was to build cars that many people could afford. The Ford Motor Company was the first to use an assembly line.

The assembly line was efficient, but it was boring work. Each laborer added one part of the car until it was built. By using this method Ford's laborers could build a new car every ninety minutes. However, his laborers wanted to quit the boring assembly-line work. To ensure workers didn't quit, Ford doubled their wages. Today, all automakers use an assembly line to make cars.

## Idea Units – Oral Retell Scoring Sheet

Student ID Number \_\_\_\_\_

### Paragraph 1:

- ☐ Automakers are companies
- ☐ Automakers make cars
- ☐ Automakers sell cars (thousands of/many cars each year)
- ☐ Laborers depend on the automotive industry for their jobs
- ☐ Automakers rely on many industries to make parts
- ☐ One out of every six/many businesses in America contribute(s) to the automotive industry

### Paragraph 2:

- ☐ First cars were built in 1769
- ☐ They were powered by steam
- ☐ They were not safe
- ☐ They often broke down
- ☐ Automakers began using gas engines
- ☐ Gas engines were first used in the late 1800's/a long time ago
- ☐ These cars were safer
- ☐ These cars were more reliable
- ☐ These cars were more expensive
- ☐ Henry Ford built cars
- ☐ He started the Ford Motor Company
- ☐ (The Ford Motor Company was started) in 1903
- ☐ He wanted to build cars that many could afford
- ☐ This was the first time an assembly line was used

### Paragraph 3:

- ☐ The assembly line was efficient (e.g. cars were made more quickly)
- ☐ (The assembly line) was boring
- ☐ Each laborer added one part (until the car was built)
- ☐ A new car could be built in 90 minutes/quicker than before
- ☐ Laborers wanted to quit
- ☐ Ford wanted to ensure his workers didn't quit
- ☐ Ford doubled workers' wages
- ☐ Now, all automakers use an assembly line to make cars

Total facts: \_\_\_\_ / 28 = \_\_\_\_ %

**APPENDIX E**

**STRUCTURES TREATMENT FIDELITY FORMS**

**Structures Treatment Fidelity Form**  
**Lesson 1**

School:  
 Teacher:  
 Grade:  
 Date:

\_\_\_\_\_ Teacher communicated lesson goal to students:  
*Learn about expository text structures.*

NA Teacher connected lesson to previous lesson

Teacher discussed text structure definitions and icons:

- \_\_\_\_\_ SD definition
- \_\_\_\_\_ SD icon
- \_\_\_\_\_ C/C definition
- \_\_\_\_\_ C/C icon
- \_\_\_\_\_ Sequence definition
- \_\_\_\_\_ Sequence icon
- \_\_\_\_\_ Steps definition
- \_\_\_\_\_ Steps icon
- \_\_\_\_\_ Timeline definition
- \_\_\_\_\_ Timeline icon
- \_\_\_\_\_ Cycle definition
- \_\_\_\_\_ Cycle icon
- \_\_\_\_\_ P/S definition
- \_\_\_\_\_ P/S icon
- \_\_\_\_\_ C/E definition
- \_\_\_\_\_ C/E icon

NA Teacher modeled how to identify the text structure in the passage

NA Teacher modeled how to discriminate between text structures

/1 Number of practice opportunities = **1**

/1 Teacher checked student responses



***Structures Treatment Fidelity Form***  
**Lesson 2**

School:  
Teacher:  
Grade:  
Date:

\_\_\_\_\_ Teacher communicated lesson goal to students:  
*Describe and discriminate between Simple Description and Compare/Contrast text structures.*

\_\_\_\_\_ Teacher connected lesson to previous lesson:  
*Reviewed the five text structures*

Teacher discussed text structure definition and icon:

\_\_\_\_\_ SD definition

\_\_\_\_\_ SD icon

\_\_\_\_\_ Teacher modeled how to identify the text structure in the passage (SD)

Teacher discussed text structure definition and icon:

\_\_\_\_\_ C/C definition

\_\_\_\_\_ C/C icon

\_\_\_\_\_ Teacher modeled how to identify the text structure in the passage (C/C)

Teacher modeled how to discriminate among text structures:

\_\_\_\_\_ SD

\_\_\_\_\_ C/C

\_\_\_\_\_ /2 Number of practice opportunities = **2**

\_\_\_\_\_ /2 Teacher checked student responses

**Structures Treatment Fidelity Form**  
**Lesson 3**

School:  
 Teacher:  
 Grade:  
 Date:

\_\_\_ Teacher communicated lesson goal to students:  
*Describe and discriminate among Simple Description, Compare/Contrast, and Sequence text structures.*

Teacher connected lesson to previous lesson:  
 \_\_\_ *Discussed the similarities and differences between Simple Description and Compare/Contrast*  
 \_\_\_ *Completed guided or independent practice*

Teacher discussed text structure definitions and icons:  
 \_\_\_ Sequence definition  
 \_\_\_ Sequence icon  
 \_\_\_ Cycle definition  
 \_\_\_ Cycle icon

\_\_\_ Teacher modeled how to identify the text structure in the passage (cycle)

Teacher discussed text structure definition and icon:  
 \_\_\_ Steps definition  
 \_\_\_ Steps icon

\_\_\_ Teacher modeled how to identify the text structure in the passage (steps)

Teacher discussed text structure definition and icon:  
 \_\_\_ Timeline definition  
 \_\_\_ Timeline icon

\_\_\_ Teacher modeled how to identify the text structure in the passage (timeline)

Teacher modeled how to discriminate among text structures:  
 \_\_\_ SD  
 \_\_\_ Sequence

  /2   Number of practice opportunities = 2

  /2   Teacher checked student responses

**Structures Treatment Fidelity Form**  
**Lesson 4**

School:  
Teacher:  
Grade:  
Date:

- \_\_\_\_\_ Teacher communicated lesson goal to students:  
*Discriminate among Simple Description, Compare/Contrast, and Sequence text structures*
- \_\_\_\_\_ Teacher connected lesson to previous lesson  
*Discussed the author's intent for the Simple Description, Compare/Contrast, and Sequence text structures and the differences among them*
- NA Teacher discussed text structure definitions and icons
- NA Teacher modeled how to identify the text structure in the passage
- NA Teacher modeled how to discriminate among text structures
- /9 Number of practice opportunities = **9**
- /9 Teacher checked student responses

***Structures Treatment Fidelity Form***  
**Lesson 5**

School:  
Teacher:  
Grade:  
Date:

\_\_\_\_\_ Teacher communicated lesson goal to students:  
*Describe and discriminate between Problem/Solution and Cause/Effect text structures.*

\_\_\_\_\_ Teacher connected lesson to previous lesson:  
*Reviewed the two Descriptive and three Relationship text structures*

Teacher discussed text structure definition and icon:

\_\_\_\_\_ P/S definition

\_\_\_\_\_ P/S icon

\_\_\_\_\_ Teacher modeled how to identify the text structure in the passage (P/S)

Teacher discussed text structure definition and icon:

\_\_\_\_\_ C/E definition

\_\_\_\_\_ C/E icon

\_\_\_\_\_ Teacher modeled how to identify the text structure in the passage (C/E)

Teacher modeled how to discriminate between text structures

\_\_\_\_\_ P/S

\_\_\_\_\_ /2 Number of practice opportunities = **2**

\_\_\_\_\_ /2 Teacher checked student responses

**Structures Treatment Fidelity Form**  
**Lesson 6**

School:  
 Teacher:  
 Grade:  
 Date:

- \_\_\_\_\_ Teacher communicated lesson goal to students:  
*Practice discriminating between Problem/Solution and Cause/Effect*
- \_\_\_\_\_ Teacher connected lesson to previous lesson:  
*Discussed the authors' intent for the Problem/Solution and Cause/Effect text structures*
- NA \_\_\_\_\_ Teacher discussed text structure definitions and icons:
- NA \_\_\_\_\_ Teacher modeled how to identify the text structure in the passage
- NA \_\_\_\_\_ Teacher modeled how to discriminate among text structures
- /7 \_\_\_\_\_ Number of practice opportunities = 7
- /7 \_\_\_\_\_ Teacher checked student responses

**Structures Treatment Fidelity Form**  
**Lesson 7**

School:  
Teacher:  
Grade:  
Date:

\_\_\_\_\_ Teacher communicated lesson goal to students:  
*Discriminate among the Descriptive and Relationship text structures*

Teacher connected lesson to previous lesson:

\_\_\_\_\_ *Discussed the author's intent for the Descriptive text structures  
and the differences among them*

\_\_\_\_\_ *Discussed the author's intent for the Relationship text structures  
and the differences between them*

NA Teacher discussed text structure definitions and icons:

NA Teacher modeled how to identify the text structure in the passage

NA Teacher modeled how to discriminate among text structures

/5 Number of practice opportunities = **5**

/5 Teacher checked student responses

**Structures Treatment Fidelity Form**  
**Lesson 8**

School:  
 Teacher:  
 Grade:  
 Date:

\_\_\_\_\_ Teacher communicated lesson goal to students:  
*Discriminate among the Descriptive and Relationship text structures*

NA Teacher connected lesson to previous lesson

NA Teacher discussed text structure definitions and icons:

NA Teacher modeled how to identify the text structure in the passage

NA Teacher modeled how to discriminate among text structure

/5 Number of practice opportunities = **5**

/5 Teacher checked student responses