DEVELOPING COMPREHENSION SKILLS: TEACHING TEXT STRUCTURE TO STUDENTS WITH LEARNING DISABILITIES

by

Catherine Southerland

B.A., Queen's University, 1985
B.Ed (Elem.),The University of British Columbia, 1992

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Abstract

The purpose of this paper was to draw upon research to determine how to best teach text structure to students with learning disabilities. The investigation began following the discovery that some learning disabled students' comprehension continues to lag behind even after their decoding skills improve. The paper addresses what text structure is, why learning disabled students struggle with it and the techniques for teaching text structure that work best for students with learning disabilities. Implications for practice are revealed and elaborated on in a practical section discussing the steps and methods for teaching text structure. Practice is linked directly to key findings in the literature and examples of graphic organizers are given. The paper also offers an interactive, informative teachers information workshop with the goal of communicating to teachers the research behind text structure and students with learning disabilites, to share how text structure is best taught in the classroom, and how teachers can best support those students who struggle with reading comprehension. This topic was approached through the lens of a sociocognitive perspective grounded in the work of both Piaget and Vygotsky.

TABLE OF CONTENTS

Dedication

This paper is dedicated to my loving family, Ned, Malcolm and Ellen, who supported me throughout the process and continually cheered me on when the going got tough. I could not have done it without them.

Introduction

In my work with students with learning disabilities over the years, I have focused on teaching efficient decoding skills (sound/symbol relationships, syllabication) for reading but noticed that even after these skills have improved, students' comprehension skills still lagged behind. Many students who struggle with reading appear to focus on deciphering individual letters and words and have difficulty understanding and comprehending what they are reading.

In a reading research course I took as part of my Masters programme, I read about the '"Matthew effect" (Stanovich, 1986) and learned about the "rich get richer and the poor get poorer" patterns of reading achievement (p. 362). That is, proficient readers read more, increasing their proficiency while struggling readers read less, increasingly falling behind their more proficient peers. I thought about my students and how this was so relevant to many that struggle; the further they lag behind, the harder it is for them to catch up, especially as the reading material gets more complicated and difficult. In the Stanovich article there is also a discussion about the "overreliance on phonic strategies" (p. 372) that leads to "word calling" when words in the text are efficiently decoded without comprehension of the passage. According to Stanovich (1986), "Remedial reading classes are filled with youngsters in late elementary and secondary schools who can sound out words but get little meaning from their reading" (p. 372). This statement resonated with me because in attempting to support students, I had neglected to ensure that they were actually understanding and fully comprehending what they were reading. I began to gather information and think about how I could ensure that students not only learned to decode efficiently but also comprehended the texts they were reading.

Another course introduced me to some of the techniques that can improve comprehension skills in all readers and I began to use these with my students. One book in particular titled *Classroom Strategies for Interactive Learning* (Buehl, 2001) was very helpful. Buehl states that "effective readers approach print with an active, purposeful attitude" (p. 11) and recommended thinking within a "text frame" during reading. Buehl argues that struggling readers, in particular, benefit from strategies that provide them with an organized way of thinking about information that otherwise may be overwhelming. Buehl's ideas inspired me to look at teaching in a new way. I began to use a variety of methods recommended in the book such as graphic organizers, story maps, magnet summaries, bubbles, grids and pyramids.

Although I felt that the introduction of these methods would help my students, I began to ask myself questions. Which method is most effective? Should I teach text structure directly before introducing the organizers? Is there research that shows that using these techniques will positively affect comprehension skills?

Throughout this process, I have become very interested in the development of comprehension skills, particularly when students move from *learning to read* to *reading to learn* (Chall, 1983). The students I work with have a great deal of difficulty making this transition as in the intermediate grades they are now expected to understand, make inferences, take notes, and gather information about the more challenging texts that they are expected to read independently. I believe that it is very important for teachers to continue to search for new and effective ways to help students improve their reading ability. With this in mind, the following questions will be addressed in this paper: What does the literature say about text structure and why do students with learning disabilities have difficulty understanding it?

What particular strategies might classroom teachers employ to improve students understanding of text structure and, as a result, improve their reading comprehension?

In this paper, I intend to apply findings from the literature and link it to classroom practice in an elementary classroom setting (informed by my work as a resource teacher in a school for learning disabled students).

I am approaching the topic of direct instruction in reading comprehension for learning disabled students from a sociocognitive constructivist perspective. By sociocognitive, I mean a view of language as occurring and interactively constructed both *in the head* and *in the world*. Piaget's (1969) work is central to the school of cognitive theory known as "cognitive constructivism". Piaget believed that children went through universal stages of development. He also believed that cognitive development occurs as the child interacts with the physical environment. Although Piaget's scheme of universal stages can be somewhat rigid, they provide a framework to guide learning and teaching.

While cognitive constructivism looks at how the individual learner understands things in terms of developmental stages, social constructivism looks at how meanings and understandings grow from social encounters. Vygotsky (1978) proposed that learning takes place in what he called the Zone of Proximal Development (ZPD) and that for learners to move into the ZPD, they had to be engaged with an adult or more significant other to refine their thinking to make it more effective. For Vygotsky, the development of language and articulation of ideas was central to learning and development. In this way, learning is seen as social in nature, as the learner and teacher (or other more proficient or more skilled person) interact in the ZPD.

Consistent with a sociocognitive perspective, I believe that children learn best

when presented with material that suits their cognitive level and that the best learning takes place in an environment of engagement, one in which students are active participants in their learning (Piaget, 1969). I also believe that as a teacher, I can guide students so that they can move beyond the *can do with help* (ZPD) into the *can do alone* zone (Vygotsky,1978). These perspectives form the framework through which I will review the literature on text structure and how teaching it directly to students with learning disabilities can help them improve their reading comprehension.

Literature Review

This section offers a review of the literature in the area of teaching text structure and the reasons why students with learning disabilities struggle with it. The review focuses on techniques that assist these students in the understanding of text structure with the goal to improve their comprehension skills. My goal in reviewing the literature is to investigate and look critically at how to approach the teaching of comprehension skills to students who struggle with reading and to identify effective techniques that involve the teaching of text structure. At the end of this section, the connections for practice will be outlined and will provide suggestions as to how findings from the literature can be translated into practice.

Text Structures

Text structures refer to how a text is organized and the specific patterns of organization that authors use to inform, describe, and explain (Dillabough, 2008). Informational texts have a variety of text structures unlike narrative, which essentially has

4

one. Informational text can be defined as text written for the primary purpose of conveying information about the natural and social world and having particular text structures or features to accomplish this purpose (Duke, 2000). Each informational text structure has its own purpose and signal words because it is discipline or subject-oriented. Traditionally, informational text is the text that we "read to learn" rather than the text that we "learn to read" (Chall, 1983) although some educators have been arguing for the inclusion of more informational text at the learning to read stage, where narrative texts have tended to dominate. For the purposes of this paper, I will focus on the text structures in informational or expository text. Expository text is difficult to comprehend for many students because it utilizes a variety of different organizational structures. Anderson and Armbruster (1984) identified six major structures for organizing expository material: (1) description (of characteristics, traits, properties or functions), (2) temporal sequence of events, (3) explanation (of concepts or terminology, (4) definition-example, (5) compare-contrast, and (6) problem-solution effect (p.198). They emphasized that it is important to realize that few texts employ only one of these six structures; most texts would include a variety of these formats.

Jones, Palincsar, Ogle, and Carr (1987) identified six frames that authors typically use to organize information: compare/contrast, concept/definition, cause/effect, problem/solution, proposition/support, and goal/action/outcome. According to Buehl (2001) "a section in a chemistry textbook might follow a cause/effect frame. A newspaper editorial read during language arts instruction might follow a proposition/support frame." (p. 16).

_____Skilled readers are intuitively aware of all of these structures as they read expository text. They use these structures for building internal connections or making

logical connections among ideas from the text (Mayer, 1984). Dickson, Simmons, and Kamennui (1998) state, "Text structure appears to play a role in reading comprehension. Moreover, there is strong empirical evidence that readers' awareness of text structure is highly related to text comprehension" (p. 251).

Proficient readers approach print with an active, purposeful attitude. They tend to have a frame of mind that will structure their reading of a particular text. Researchers use the term "frame" to describe sets of questions that are expected to be answered in a text (Anderson & Armbruster, 1984). Each text frame or structure signals to a reader the most effective way to approach reading a particular piece of material.

Gersten, Fuchs, William and Baker (2001) identified three insights that can be gleaned from the literature on text structure: (1) awareness of text structure is acquired developmentally, (2) some text structures are more obvious and easier for readers to comprehend and (3) skill at determining text structure, and then using it, seems to be important for comprehension of expository text (p. 282).

Researchers suggest that knowledge of text structures leads students to ask relevant questions about the material they are reading as they are reading it (Gersten et al., 2001). However, a common problem elementary students experience is not being familiar with expository text structure and, as a result, having difficulty recalling what they have read (Duke, 1999). Taylor and Samuels (1983) found that elementary students who were aware of text structure recalled significantly more information from the reading passages than those students without an understanding of text structure. They also found that many of the elementary students had not yet learned how to use text structure as a retrieval aid.

Until recently, there was very little research on the use of expository text in the

early grades. This is most likely because there is relatively little exposure to expository texts in these grades. Duke's (1999) study with students in first grade was based on the hypothesis that experience with one type of text would help children become good readers and writers of that type of text but not of some other type of text. Duke was particularly interested in the use of informational text in the early elementary years. She found that there was a relative scarcity of information texts in first grade classrooms in general and thought this might explain why many children have difficulty with informational reading and writing later in school. Duke argued that informational text is developmentally appropriate for young children and it is important to expose them to it so that the structure of the text is not unfamiliar to them when they move from the "learning to read" to the "reading to learn" phase (Chall, 1983).

Duke (2000) investigated the use of informational text in 20 first grade classrooms over the course of a school year. She visited each classroom over several days and recorded the types of text found. Results indicated a very limited amount of informational text usage in the classrooms (the focus was on narrative text) and an average of only 3.6 minutes per day was spent on informational texts during language arts activities. The lack of informational text was particularly pronounced in low SES schools and Duke, in explaining the "fourth-grade slump" (Chall, 1983), pondered, "perhaps one reason this slump is reportedly more pronounced among low-SES students is that they have had less pre-fourth grade school experience with informational texts" (p. 221). Duke's study emphasized again the importance of being exposed to text structure at an early age.

Duke and Kays (1998) in a study of kindergarten-aged children's knowledge of information books before and after they had been exposed to information books for three

months, found that the children had greater knowledge of several features characteristic of the information book genre after hearing the books read aloud on a regular basis. This finding supported their belief that development of knowledge of genre requires experience with the genre and that young people can benefit from early exposure. Genre relates to text structure in that different types of genres contain different text structures. For example, the narrative genre follows a structure more aligned with oral language while expository genres use many different organizational structures. In their study, Duke and Kays used an expository genre with the information books.

In a somewhat similar study, Pappas (1993) asked kindergarten children to pretend to read information texts that had been read to them immediately before. Children were not taught to recognize any particular features of the text, just to listen while the books were read to them. Children's retellings were very similar to the actual texts with use of characteristic features of each genre. According to Duke (2000), "Children spontaneously attended to genre-specific features and then distinguished their readings accordingly" (p. 206). Indeed, Pappas' study showed how children are sensitive to the different structures of a text at an early age.

In summary, the literature in the area of teaching text structure emphasized the importance of understanding text structure in the reading of informational or expository material. Many students seem to acquire knowledge of text structure and learn how to utilize this knowledge intuitively as they read and write but there are others who require direct teaching. In the next section, I look at the literature on students with learning disabilities and the difficulties they have understanding text structure without direct teaching.

Students with learning disabilities and text structure

Students with learning disabilities often struggle with reading comprehension and many of the research studies in this area have focused on the reasons why these learners have difficulty remembering what they read. These comprehension difficulties may be explained, in part, by their limited knowledge of expository text structures. In their study with high school students, Meyer, Brandt and Bluth (1980) found that readers who were unaware of text structure did not approach text with any plan of action and did not chunk or organize text as they read. The less proficient readers retold the text in a confused and disorganized way compared with the more proficient readers (Gersten et al, 2001).

Torgensen (1977), in a study of the task performance of students with learning disabilities, found that the students lacked a general awareness of their own cognitive processes. The students did not use appropriate strategies to actively engage with texts; he used the term "inactive learner" (p. 45) to describe their troubles with comprehension. Torgesen believed that learning disabled students' general lack of cognitive awareness and lack of motivation resulted in an inability to adopt task-appropriate strategies (Wong, 1980). In other words, they do not instinctively or intuitively recognize text structure and need to be taught this skill. The difficulties that students with learning disabilities experience decoding text may make it difficult for them to recognize or learn these strategies independently.

The relationship between reading fluency and comprehension is an important one and can be used to explain learning disabled students' struggles to actively engage in their reading. Cunningham and Stanovich (1998) explained this phenomenon:

Slow, capacity-draining word recognition processes require cognition resources

9

that should be allocated to comprehension. Thus reading for meaning is hindered:

unrewarding reading experiences multiply; and practice is avoided or merely

tolerated without real cognitive involvement (p. 8).

When too much attention is paid to low-level processes such as word recognition, not enough

attention is available to access the higher-order processing involved in comprehension.

(Gersten et al., 2001). Samuels (1979) found that an intervention designed to improve reading

rates called "repeated readings" led to improved comprehension. That is, if students needed to

focus less attention on decoding, they could then attend to the content of what was being read

more easily.

One of the higher-order processes that facilitates reading comprehension is awareness

of text structure. Studies have shown that students with learning disabilities have little

awareness of expository text structures and experience difficulties using them as aids in

comprehending text (Gersten et al., 2001). Wong and Wilson (1984) found that students with

learning disabilities were less aware of passage organization (text structure) and had more

difficulty reorganizing disorganized passages than were students without learning disabilities.

Englert and Thomas (1987) reported that students with learning disabilities did not

have a basic understanding of text structure and that this lack of awareness affected their ability

to understand expository (text) material. Students with learning disabilities performed less well

in formulating hypotheses about details in the texts. The students had the same problem when

the text was read aloud to them as they did when they read the material themselves, supporting

the idea that it was not a decoding issue. Their findings supported the notion that knowledge of

discourse types underlies effective comprehension and production of written texts and that

learning disabled students' conceptual understanding of these structures was limited.

Wong (1980) reported that students with learning disabilities in her study had a limited ability to organize information on their own. Wong's study involved a group of second grade students and a group of sixth grade students. The children were divided into two groups, one group consisting of students with learning disabilities and the other consisting of good readers. She found that the students with learning disabilities performed at a significantly lower level when they were not provided with questions to guide their reading. However, when the students were given structured questions and prompts based on text structure, their recall improved significantly. This finding suggests that if students are directly taught the skills to understand the text structure, they can use them to improve their understanding.

McGee (1982) found that fifth grade proficient readers used text structure more and recalled more total idea units than fifth grade poor readers. Armbruster, Anderson and Ostertag (1987) concluded that many of the studies in the relationship between readers' knowledge and utilization of text structure showed that age and reading ability are highly correlated with recall of expository material. They speculated that this was perhaps because of the skilled readers' greater awareness and use of the author's higher order text structure. Many studies have demonstrated the importance of understanding text structure in processing meaning and that many students with learning disabilities seem to lack this important skill. Furthermore, findings indicate that if students with learning disabilities were directly taught these skills, they were able to increase their understanding of texts read. In the next section, I review some studies that examine the techniques that seem to work best for students identified as having learning disabilities.

Teaching strategies to students with learning disabilities

As discussed in the previous section, the knowledge of text structure leads students to ask questions about what they are reading and helps them *chunk* and remember details, thus aiding in their comprehension and recall of reading material. The studies also suggest that students with learning disabilities are less able to use these strategies to help them with the comprehension of expository text. However, research also indicates that when directly taught these skills, students can employ them to enhance their reading comprehension. In this section, some of the interventions designed to improve students' reading strategies, particularly in improving their understanding of text structure, will be discussed.

The main method used to improve understanding of text structure is called *strategy instruction* where the focus is on improving how readers process expository material. The strategies include passage organization, self-questioning procedures, a mapping organizer, SQ3R (Survey, Question, Read, Recite, Review) and summary skills training. Furthermore, the use of multiple strategies, rather than single strategies, may be more effective in improving students' comprehension skills.

Many teachers are now trying to develop approaches that encourage student engagement in what they are reading and to motivate students to become "active learners" (Gersten et al., 2001). Englert and Mariage (1991) used a graphic organizer called POSSE which organized text in the following way: Predicting ideas, Organizing predicted ideas and knowledge, Searching for the text structure, Summarizing the main ideas, and Evaluating comprehension (p. 126). They worked with fourth, fifth and sixth grade students with learning disabilities where the teacher modeled the strategies until the

students felt comfortable teaching the skills to each other. Results showed that strategy instruction positively affected recall of expository ideas and knowledge of comprehension strategies among students with learning disabilities. After the instruction, the students could recall more information. Englert and Mariage suggested it would be worthwhile to look at a larger group of students and for a longer period of study (this one was for two months) in order to examine the long term benefits of using this strategy.

Jitendra, Cole, Hoppes, and Wilson (1998) examined the effects of a direct instruction summarization program and a self-monitoring technique on the reading comprehension of middle school students. Student performance was assessed after the main idea and self-monitoring training. They found that the summarization strategy was a practical, economical and effective means to improve student comprehension. Furthermore, the main idea instructional program produced increases in identifying and generating main ideas, with higher levels of performance following self-monitoring instruction. They noted that the small number of participants limited the generalizability of the findings.

Boyle (1996) documented the effects of a cognitive mapping strategy on the comprehension of students with mild disabilities. Thirty students who exhibited poor reading comprehension were assigned to either an experimental or a control group. Through a strategy format, the students in the experimental group were taught how to organize what they had read using a cognitive map. The students who were taught how to use this technique showed gains in both literal and inferential comprehension, compared with the control group. One of the problems with this intervention was that students were not taught to generalize this technique to other academic areas and the skills did not transfer. Boyle proposed that teachers could "promote the transfer of a strategy to new

materials in two ways: (a) mediate student mindfulness during strategy instruction and (b) train students in activities that would promote generalizations" (p. 97). As this study focused solely on one subject area, the researcher emphasized the need to encourage the transfer of these skills into other academic areas and suggested ways to make this happen.

Klinger, Vaughn and Schumm (1998) examined the effect of multiple strategies that combined previewing (eliciting background knowledge and predicting), monitoring and clarifying, generating main ideas, and summarizing in a social studies unit with fourth grade students. No significant effects for the students with the learning disabilities were identified. It is possible that these students needed more teacher modeling and feedback to benefit from the instruction. Also, this intervention took place over a three week period and perhaps this was too short a time to determine how effective the strategies were. Also, the teaching sessions occurred during three classes and the students may have needed more instructional time to incorporate the strategies into their learning. The question of treatment duration time is an important one and warrants further investigation as to whether students identified with learning disabilities who have more time to learn these strategies will be better able to use them effectively.

Graves (1986), compared the effects of two experimental conditions: (1) direct instruction on identifying main ideas and (2) direct instruction combined with self-questioning and self-monitoring. In the second condition, while identifying the main ideas in the passages, the students also recorded their progress through reading passages and asked themselves, "Do I understand what this is about?" The group that used self-questioning and self-monitoring techniques consistently outscored the first group suggesting that modeling of the technique with self-questioning can enhance student

14

performance.

In their review of the research in teaching reading comprehension strategies to students with learning disabilities, Gertsen, Fuchs, Williams and Baker (2001) felt that future studies should identify the strategies and techniques that work best. Moreover, they proposed that further research attempt to determine whether direct comprehension instruction transfers to other reading tasks and contexts. According to Gertsen et al., "We need more information about how often and how long treatments must be implemented to promote transfer and routine use – either through students' continued conscious use of strategies or by students' internalizing their use" (p. 312). For example, a year long study should provide a more detailed and comprehensive look at how effective direct instruction is in improving the reading comprehension of students with learning disabilities. From the literature reviewed, it seems that the use of the strategies needs to occur over an extended period of time to be truly effective.

Because the summarization of text is very helpful in recognizing text structure, summary skills strategies have been developed for those readers who do not use comprehension strategies independently. The general rules of summarization include (a) deletion of unnecessary information (b) substitution of a superordinate term for a list of items or actions, and (c) selection of a topic sentence. In a study by Nelson, Smith, and Dodd (1992), high school students were taught five summarization rules: collapse lists, use topic sentences, remove unnecessary detail, collapse paragraphs and polish the summary in work with science texts. The strategy produced clear improvement in the comprehension of the text with equal improvements in the completeness of their written summaries. The students also reported that the strategy was effective for helping them understand the

science text.

While most students appear to benefit from direct teaching of expository text structures, students with learning disabilities appear to benefit the most. Dillabough (2008) found that students who received systematic instruction in expository text structures scored higher in several areas compared to a control group that did not receive text structure instruction. Students showed the most improvement in their ability to "pick out the main and secondary ideas when reading, identify and leave out extraneous ideas when reading, get information for a research assignment and organize their writing when presenting the material they had researched" (p. 16).

One approach to developing awareness for text structure is to teach readers to make some concrete representation of the organization of ideas (mapping) Another way is to use typographical cues (headings, subheadings, and paragraphs) as indicators of text structure. This approach was used in a study by Taylor (1982) who utilized a hierarchical summarization technique. This technique consists of first preparing a skeletal outline based on headings, subheadings and paragraphs, and then writing a main idea statement for every point on the outline. In a study with fifth grade and seventh grade students where one group used the technique while another did not, results showed that those who completed the summaries outperformed those who did not.

In a more recent study by Dexter and Hughes (2011), students with learning disabilities in upper-elementary, intermediate and secondary students learned from graphic organizers. The graphic organizers in this study were defined as visual and spatial displays that make relationships between related facts and concepts more apparent. Results revealed that the use of graphic organizers was associated with increases in vocabulary

knowledge, comprehension, and inferential knowledge. The researchers highlighted the importance of using a combination of graphic organizers with students with learning disabilities including: cognitive mapping, semantic mapping, and semantic feature analysis (which includes the teaching of text structure).

Williams, Hall, and Lauer (2004) demonstrated that text structure instruction helped struggling early elementary students improve their comprehension of compare and contrast expository text. This study demonstrated that children were sensitive to text structure and the authors propose that students would benefit from instruction as early as second grade, a suggestion consistent with Duke's (2000) findings that students benefit from early exposure to expository text structures.

All of the studies reviewed point to the necessity of helping students with learning disabilities develop the skills and strategies for effective reading based on what proficient readers do, and of teaching students how information is organized in different types of texts or text structures. Furthermore, indications are that using just one strategy is not as effective as using multiple strategies with direct teaching (Englert & Mariage 1991, Gersten et al., 2001, Klinger et al., 1998). The importance of self-questioning and thinking aloud when using the various strategies was also indicated (Graves, 1986, Dexter & Hughes, 2011). Graphic organizers, mapping tools and scaffolds that assist the students in organizing a large text into manageable chunks also improved comprehension of texts (Boyle, 1996). Summarization techniques were effective in improving students' reading comprehension (Jitendra et al., 1998). Overall, the strategies and techniques identified can be helpful in enhancing the comprehension skills of students with learning disabilities.

Connections to Practice

In this section, I draw on the literature reviewed to make connections both with my own practice and to provide a resource to support other teachers in utilizing this body of knowledge.

It is clear that students who struggle with reading have difficulty identifying text structures to assist in their understanding of text. However, the research suggests that if these students are taught specific strategies to identify these patterns, their comprehension can be enhanced. The first section of my connections to practice will show what this looks like in my own resource room.

In addition to highlighting the need for directly teaching text structures, the literature also identified the importance of using multiple strategies, self-talk while reading and the use of summarization techniques. Although these strategies appear to work well in the research studies, I have attempted to adapt them to each student and situation. A classroom strategy may work well in one environment and not so well in another. The learning strategy should be aligned with the learning goals. All strategies do not magically lead to success so it is important to monitor students closely to make sure the strategy is leading to meaningful learning. Being flexible and adjusting the strategy to fit the needs of the student and the content is crucial.

Since comprehension skill development is an area of interest for most teachers, the final section of the paper is a power point resource that would be the central part of a teacher's workshop on teaching text structure to improve reading comprehension students with learning disabilities. In the power point presentation, the major findings from the literature are highlighted and a link to classroom practice is drawn. It is my hope that, once

provided with more information, the teachers can use the techniques in their own classrooms and work to assist those students who struggle. Since it is so important to see a transfer of these skills into all types of reading experiences and contexts, the teachers can assist their students in making this connection.

Teaching Text Structure in the Classroom

The difficulty that many children experience with informational texts is that texts tend to use not just one structure but several structures. As discussed in the literature review, thinking within a text frame during reading allows students to become more directive and purposeful in their learning so developing their understanding of these various text structures is very important. Pearson and Duke (2002) indicated that teaching strategies such as text structure analysis should use a combination of explicit instruction, modeling, and discussion. Classroom strategies can be used to signal text frames to students and provide the support they need to read effectively. Since there are multiple strategies, each text structure should be taught individually; students need time to master one structure before learning another (Moss, 2004). By learning each text structure separately, students are also better able to recognize when multiple structures are working together.

In her own classroom research, Dillabough (2008), found that Grade 4 to Grade 8 students are better able to understand and use text structures when instruction includes the use of graphic organizers. Graphic organizers provide a visual tool for students so that they can more easily see the relationships between the main and secondary ideas. They also give students a visual picture for organizing what they have read. Students can be exposed to a variety of organizers and choose the one that works best for them (see Appendix).

It is also important to teach students about the signal words that represent the text structure being used. For example, the signal words for a compare/contrast structure include: *same as, different from, as opposed to, similar*, etc. These words help students to identify the structure and they can also use them in their own writing. As Maxim (1998) and Miller and George (1992) indicate, "a knowledge of the key words that reveal a specific structure heightens students' awareness of the structure and according to research, does transfer to students' writing of informational texts such as essays, news and magazine articles, and paragraphs" (Dillabough, 2008 p. xiii).

The following are the steps I use in teaching text structure. The focus is on five of the most common text structures. These include: cause and effect, compare and contrast, sequence, problem and solution and description. The first step is to introduce these five structures as a whole and then look at each one in detail. Looking at each one in detail means reading through the descriptions of each (signal words, headings), reading examples of each and having students write their own piece using the structure being taught. One useful activity is to have each student create a booklet with the five structures including definitions, signal questions and signal words. The booklet can be used as a reference guide as they read various types of texts.

The following are the general steps used to teach a text structure:

1. Define the structure. Give students the definition of the structure. Have students share ideas about what this structure might include.

2. Examine model paragraphs to identify the most important attributes. Provide example and ask students to find common characteristics of each.

   Focus on signal word

20

3.   Examine a model paragraph and its graphic organizer to identify the organizer and how it links to the paragraph.

4.   In pairs, ask the students to read through a paragraph and organize it in a blank graphic organizer.

5.   In pairs, compose a paragraph using the text structure being taught.

6.   Read many expository texts to identify the patterns.

(Dillabough, 2008, pp xviii).

One way to help students internalize important aspects of nonfiction is to have them apply these aspects to writing by creating their own texts using nonfiction structures and features. For example, when teaching students how to read a text using compare and contrast, teachers could include a follow-up activity by having students write a paragraph comparing one chocolate bar to another. As students gain more experience with different text structures, they will begin to internalize them. When they encounter the texts in their reading, they will be easier to navigate and comprehend.

It is also very important to use multi-sensory methods when working with students who have learning difficulties because some students learn best by using all of their senses. When working through the steps above, it would be helpful to be drawing pictures, building models and/or painting scenes to further reinforce the learning. For example, when teaching the cause/effect structure, teachers could lay out a line of dominoes and push them over. Then students could draw a picture of the dominoes to represent the cause/effect structure. Developing graphic organizers could also include using modeling clay. For example, when learning about the compare/contrast structure, the teacher could build a Venn diagram using clay and place vocabulary cards in each space to represent the

differences being discussed. This could also be done with the sequence structure and using the clay to build the model of a ladder to demonstrate the steps in the sequence.

Teacher information evening

Teachers are often unaware that students with learning disabilities can benefit greatly from using organizers and learning about text structures. This knowledge would benefit all types of students, not just those who struggle. Indeed, I believe knowledge of text structure whether explicit or implicit is a crucial learning tool for every student. With this in mind, I have prepared a teacher information evening in order to share the knowledge about the teaching of text structure that I garnered from the literature. The teacher evening will consist of a power point presentation in which the above points will be highlighted. The title of the teacher presentation is **Text Structure: Understanding Patterns for Reading Comprehension.** Throughout the evening, teachers will be invited to ask questions and take part in reading activities to highlight the structures being discussed (see Appendix for handouts). The workshop could take place any time of the year although the beginning of the year is obviously the most beneficial because teachers could use the techniques throughout the course of the school year. The best time would most likely be October/November as the students would have settled into a routine and teachers have had time to become acquainted with the students. Early in the year is also ideal because teachers can implement the teaching of the structures early on and they can be used throughout the course of the year. As stated previously, the teacher presentation will be presented in power point format as attached.

Conclusion

This paper has investigated text structure and the importance of directly teaching it to students with learning disabilities. My interest in the topic began when I noticed students' struggles with comprehension even after their decoding skills had improved. The research reviewed identified some clear and consistent findings. The teaching of text structure was found to be beneficial in improving comprehension skills and most helpful to those students with learning disabilities. The understanding of text structure helps the students to develop a plan of action based on what proficient readers do. The different methods for teaching text structure are varied and many styles can be implemented to determine which works best for individual students.

The next section of the paper includes a power point presentation to be used in a workshop for teachers. The power point introduces the meaning of text structure, why students with learning disabilities struggle with it, the main types of text structure to teach and how best to teach it.

Text Structure

Understanding Patterns for Reading Comprehension

What is text structure?

- Text structure refers to the internal organization of a text
- Refers to how a text is organized and the specific patterns of organization that authors use to inform, describe and explain (Dillabough, 2008)
- Each text structure communicates ideas in a different way

Text types

Narrative

- Fiction
- Story

Information

- Nonfiction
- Academic content

For example….

- A Social Studies text with information about the Gold Rush could have a text structure that involved the cause/effect format

- SINCE there was gold found….

- THEREFORE there was an increase in population in that area

What does the research say about informational text structures?

- Dickson, Simmons, and Kameenui (1998) state, "Text structure appears to play an important role in reading comprehension. Moreover, there is strong evidence that readers awareness of text structure is highly related to text comprehension"(p.251)

Students with learning disabilities and text structure

- Students who struggle often have little awareness of text structure
- This lack of awareness makes it difficult for them to understand and fully comprehend expository or informational text (Englert &Thomas,1987)

Text structure and students with learning disabilities

- When students with learning disabilities are directly taught how to recognize text structure and use self-monitoring skills, their comprehension improves (Gersten, Fuchs,Williams & Baker,2001)

- The use of graphic organizers aids in their understanding of text structure (Boyle, 1996)

What are the five most common text structures in informational text?

- Cause and effect
- Compare and contrast
- Sequence
- Problem and Solution
- Description

Signal questions and words

- Help to identify the type of structure in the text
- Are very important to teach because they help students to recognize the different types of text they come across in their reading

Importance of knowledge of signal words

- Maxim (1998) and Miller and George (1992) have concluded "a knowledge of the key words that reveal a specific text structure heightens students awareness of the structure and according to research, does transfer to students' writing of informational texts such as essays and paragraphs (Dillabough, p. xiii)

Cause and effect

- Cause is why something happened
- Signal questions:

What happened? Why did it happen What caused it to happen?

- Signal words: So, Because, Since, Therefore, If...Then

Example of cause and effect text

- The tsunami hit the coast shortly after the earthquake occurred out in the ocean. As a result, the enormous waves crashed into the small village. If the earthquake had occurred during the day instead of the night, then so many people would not have lost their lives.

Compare and Contrast

VENN DIAGRAM!

A   B

both A & B
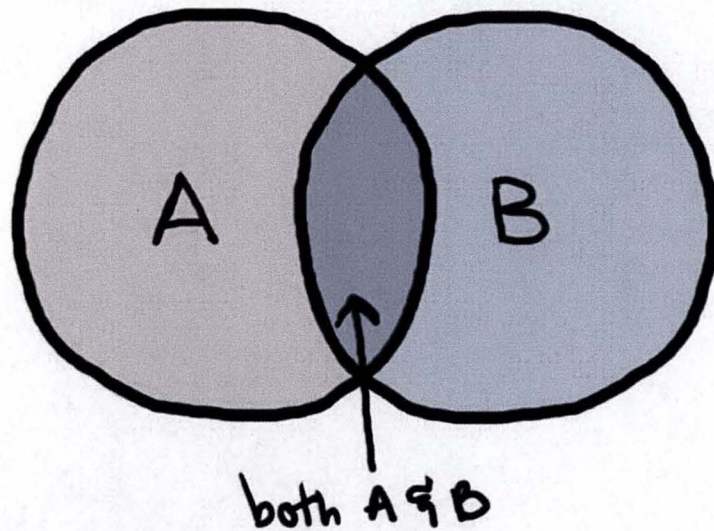
- Shows how two or more things are alike/different
- Signal questions:In what ways are they alike? In what ways are they different?
- Signal words: same as, similar, alike, both, instead of

Example of compare/contrast

- Singapore and Hong Kong are two cities in Asia. Not only are they both bustling centers of industry, they are also home to diverse populations of people. Singapore has a smaller population than Hong Kong and is different in applying its rule of law.

Sequence
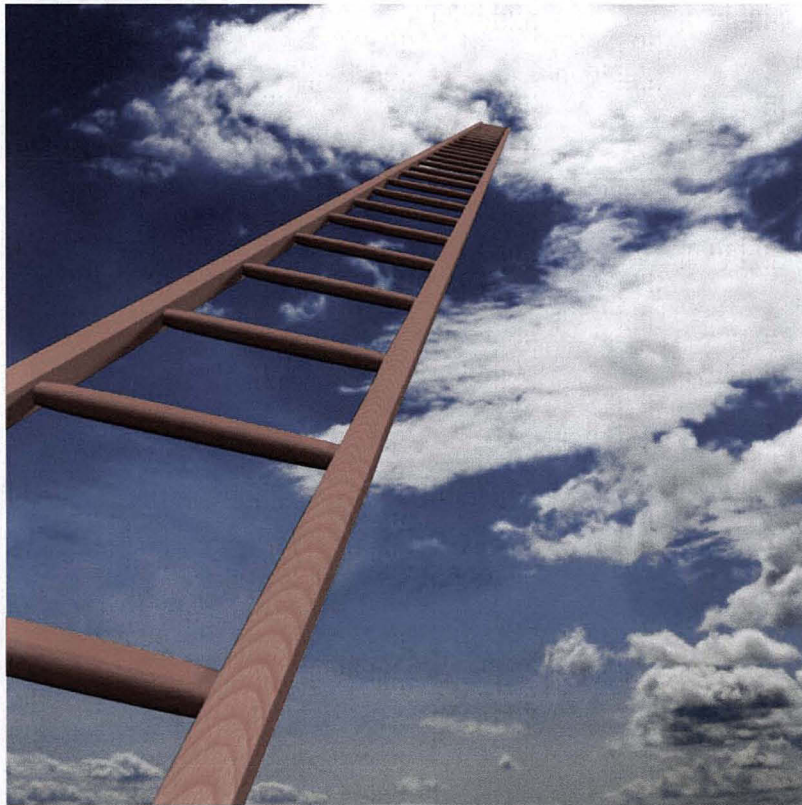
- Describes items or events in order or tells the steps to follow
- Signal questions: What steps are listed?Do they have to happen in this order?
- First, Second, Next, Then, Before, After

Example of Sequence

- The life cycle of a butterfly occurs in several stages. First, the adult lays her eggs. Next, the larva hatches from the egg and is known as a caterpillar. Afterwards, the caterpillar makes a case or pupa. Finally, the adult butterfly comes out of the case.

Problem and Solution

- Tells about a problem then gives solutions
- Signal questions:What is the problem?What can be done to solve it?
- Signal words: Question is, reason is,to solve this, the puzzle is
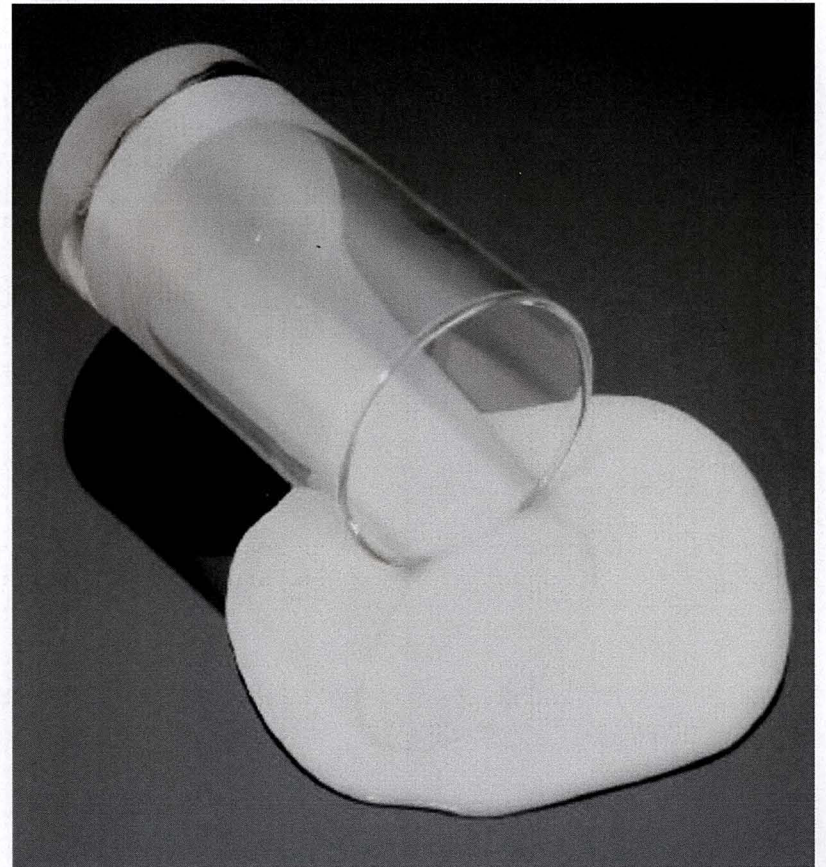
Example of Problem/Solution

- The West Bay school had a difficult problem. During recess, the children were arguing over the use of the play equipment. After discussing the issue with the teachers and the students, the Principal decided it was time to get some new equipment. This helped to solve the problem.

Description

Body parts of the Akita
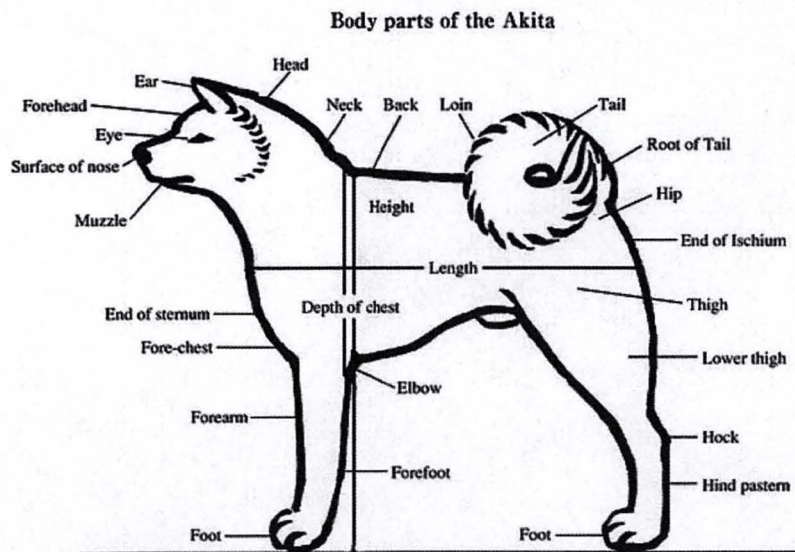
- A topic is described by listing its features
- Signal questions: What is being described? How is it being described? What is it like?
- Signal words: For instance, such as, to illustrate, characteristics
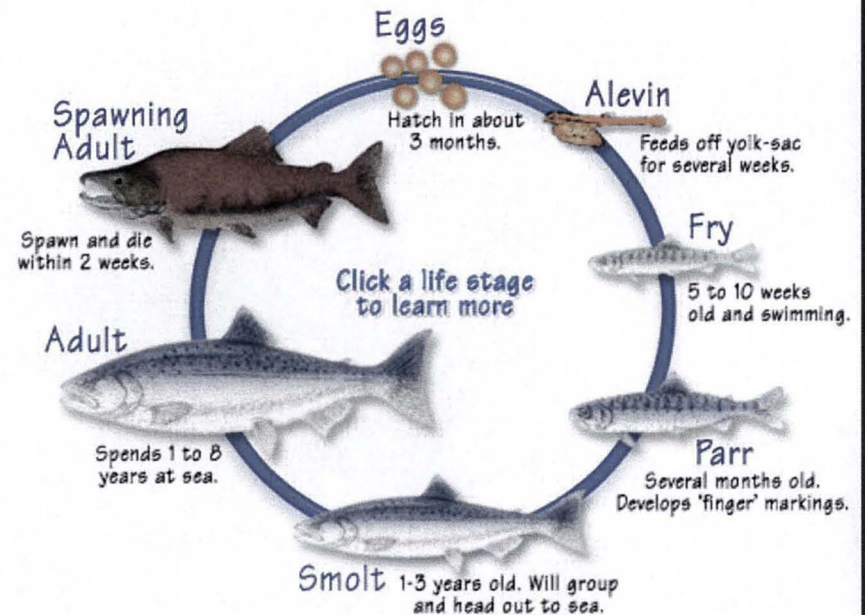
Example of description

- The wombat of Australia is a strange and wondrous creature. It has short, spiky fur and large ears. It is short-legged and found in mountainous regions. It builds tunnel systems in the ground and one of its unique characteristics is that it has a pouch on its back.

Developing graphic organizers

- Visual representation of the material a student is learning
- Help to organize information and connect ideas

Eggs
Hatch in about 3 months.

Alevin
Feeds off yolk-sac for several weeks.

Spawning Adult
Spawn and die within 2 weeks.

Click a life stage to learn more

Fry
5 to 10 weeks old and swimming.

Adult
Spends 1 to 8 years at sea.

Parr
Several months old. Develops 'finger' markings.

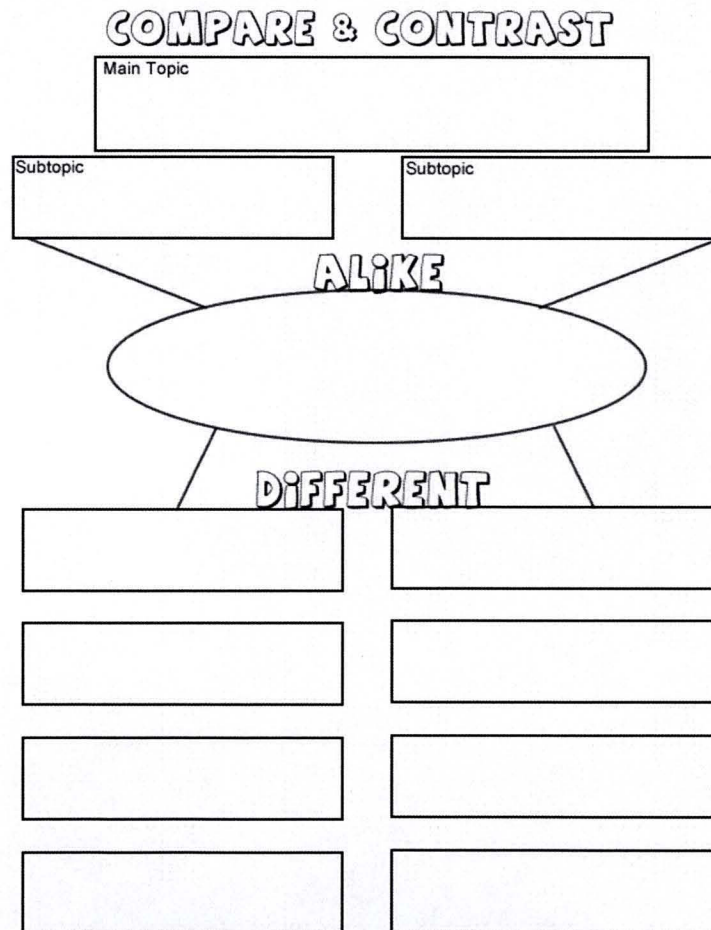Smolt 1-3 years old. Will group and head out to sea.

Developing your own graphic organizer

- Choose the text structure that is being used
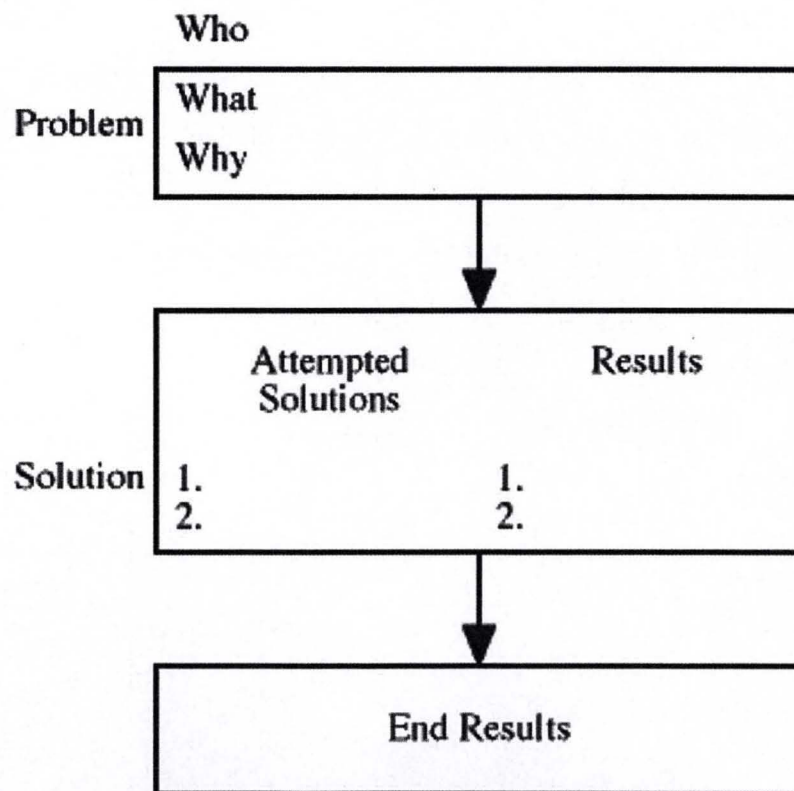- Design an organizer that follows that structure
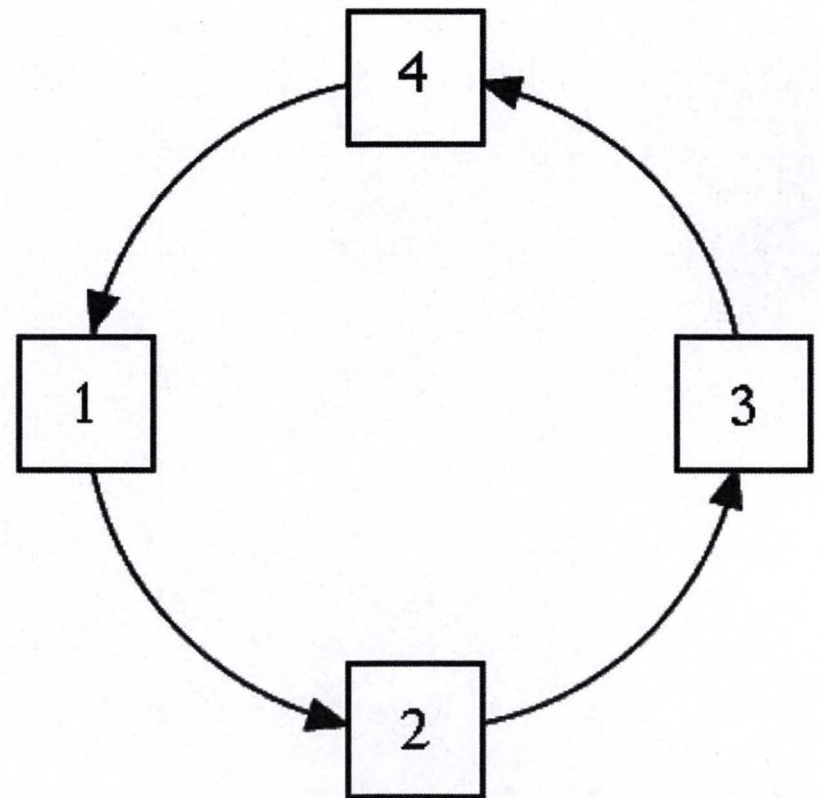
Examples of graphic organizers
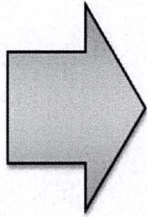

- Organizer for compare and contrast text structure

Example of graphic organizer

- Organizer for problem/solution text structure

Example of graphic organizer

Graphic Organizer: Cause and Effect

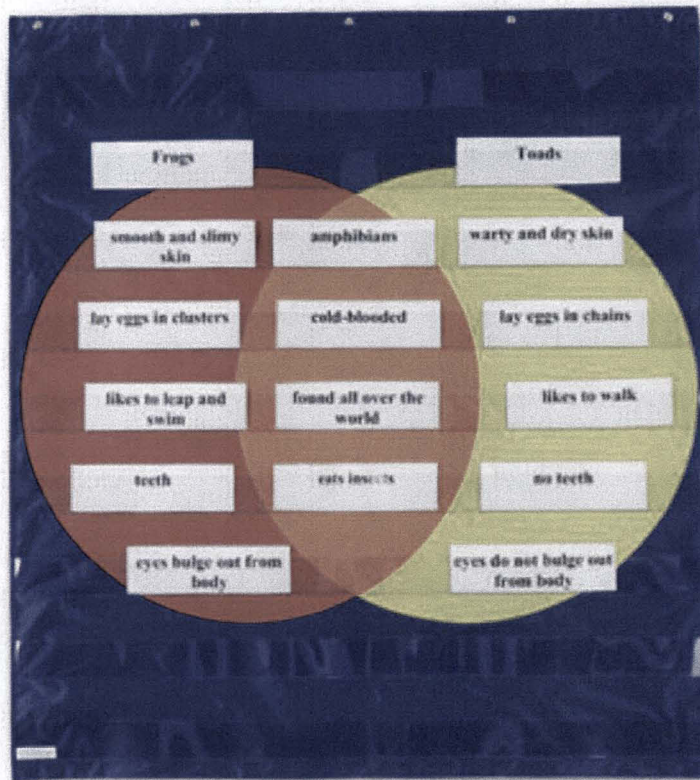| Cause		Effect

- Sample for cause and effect structure

Learning to read like a writer

- When students learn to write the different structures, they are better able to identify the structure when reading nonfiction texts

- Writing these structures at home can go a long way to reinforcing the learning taking place in the classroom

Using Multi-sensory techniques

- Painting the graphic organizers
- Cut-up paragraphs
- Clay forms as organizers
- Use different colours to represent signal words
- Be as creative as possible!

Writing summaries

- Also helpful in determining structure and improving comprehension
- Select, organize and synthesize the most important elements of the text
- Can be written or oral
- A very useful technique to practice at home and in the classroom

Thank you for attending this presentation! Some tips for the classroom

- Ask your students about the different text structures they know about
- Read texts and talk about the structure being used
- Have your students write brief summaries or give you the summary orally
- Get out the art supplies and have fun making graphic organizers!
- Use the organizers often to simplify ideas in a visual format

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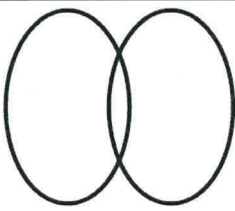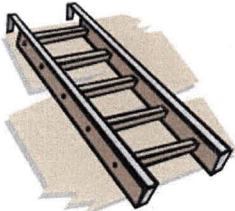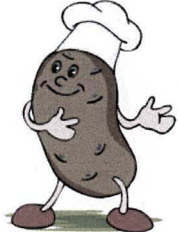 Educational Research, 71 (2), pp. 279-320.

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Text Structure Signal Questions & Signal Words

Cause and Effect	Compare and Contrast	Sequence	Problem and Solution	Description
Cause is why something happened. Effect is what happened. (Sometimes the effect is listed first.)	Shows how two or more things are alike and/or how they are different.	Describes items or events in order or tells the steps to follow to do something or make something.	Tells about a problem (and sometimes says why there is a problem) then gives one or more possible solutions.	A topic, idea, person, place, or thing is described by listing its features, characteristics, or examples.

Signal Questions

What happened? Why did it happen? What caused it to happen?	What things are being compared? In what ways are they alike? In what ways are they different?	What items, events, or steps are listed? Do they have to happen in this order? Do they always happen in this order?	What is the problem? Why is this a problem? Is anything being done to try to solve the problem? What can be done to solve the problem?	What specific topic, person, idea, or thing is being described? How is it being described (what does it look like, how does it work, what does it do, etc.)? What is important to remember about it?

Signal Words

So	Same as	First	Question is…	For instance
Because	Similar	Second	Dilemma is…	Such as…
Since	Alike	Next	The puzzle is…	To begin with
Therefore	As well as	Then	To solve this…	An example
If…then	Not only…but also	Before	One answer is…	To illustrate
This led to	Both	After	One reason	Characteristics
Reason why	Instead of	Finally	for the	
As a result	Either…or	Following	problem is…	*Look for the
May be due to	On the other hand	Not long after		topic word (or a
Effect of	Different from	Now		synonym or
Consequently	As opposed to	Soon		pronoun) to be
For this reason				repeated

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58

Name: _____ Date: _____

Create a graphic organizer based on this paragraph.

Earth and Us

   Comparing the human body to Earth is not as strange as it sounds. Did you know that both can suffer from sunburn? We use suntan lotion to protect us from the Sun. Earth has similar protection, but instead of suntan lotion, it has the ozone layer. If we don't protect our skin, it burns. If the ozone layer develops holes, plants and animals may get burned by the Sun's harmful radiation. Acid indigestion is another thing both have in common. When we eat something that has too much acid, our stomachs experience pain and heartburn. Car exhaust and industrial pollution act like too much acid, as well. In fact, they produce acid rain. It kills living things in lakes, destroys plants, and even eats away at buildings. Another way the human body resembles Earth is that both can get a fever. When we are sick, our temperature goes up. Earth's temperature can also rise when air pollution acts like a greenhouse and traps the Sun's heat. We must take care of ourselves and Earth to prevent sunburn, indigestion, and fever.

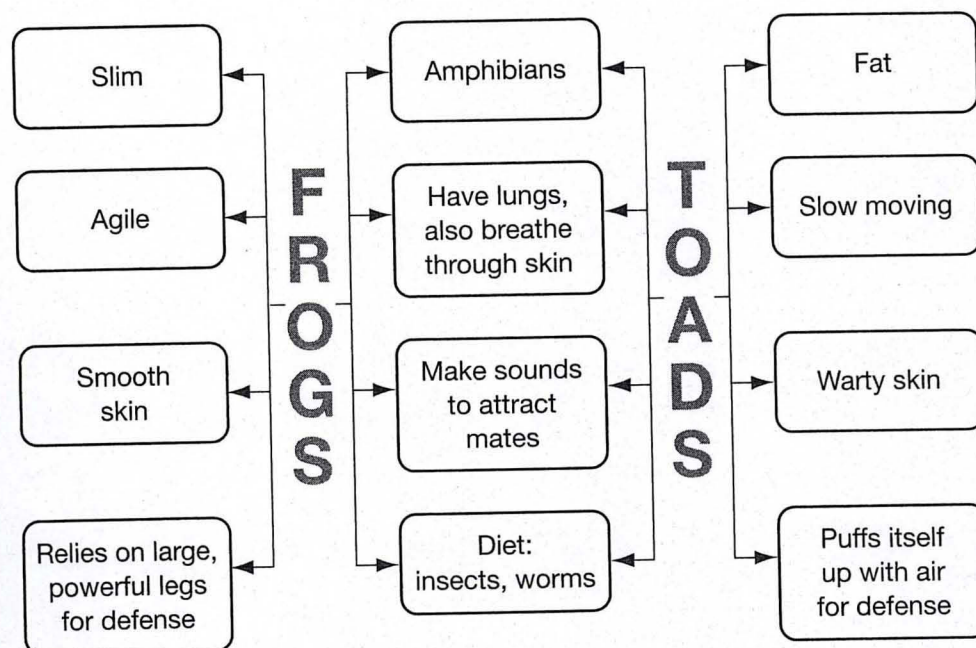Name: _____ Date: _____

In pairs, make your own organizer for the "Earth and Us" paragraph. Remember to use point form, not full sentences, to fill in the organizer.

Earth and Us

Differences   **Similarities**   **Differences**
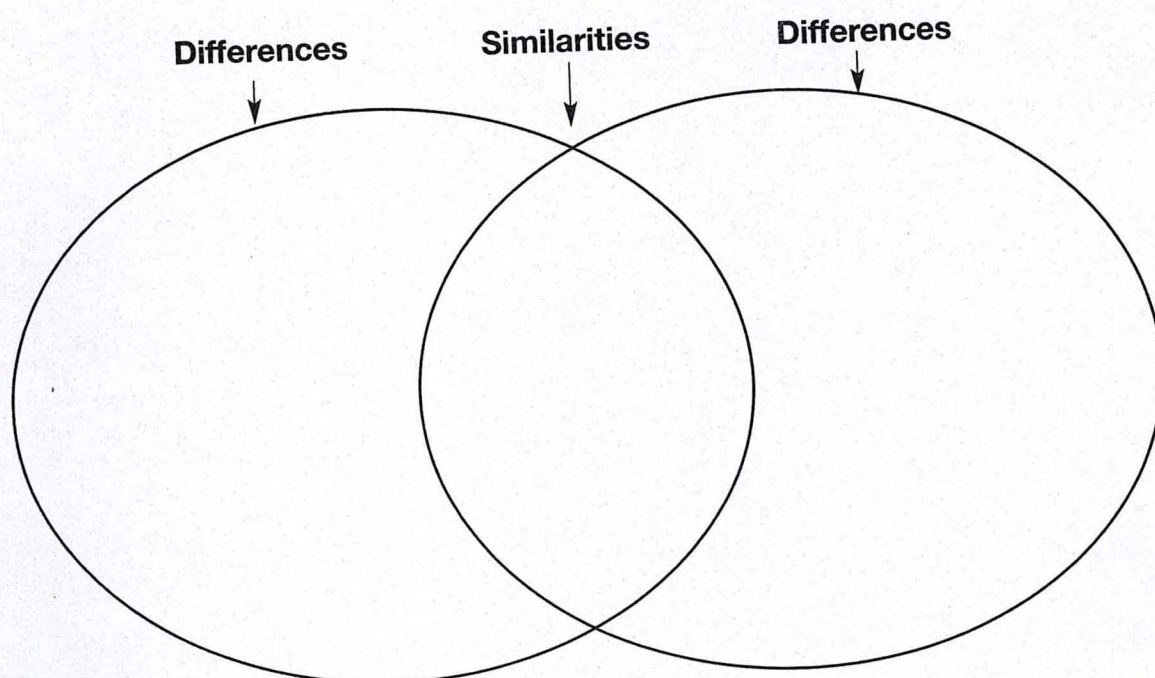
Name: _____ Date: _____

In pairs, using this graphic organizer, write a paragraph. Underline the topic and clincher sentences, and circle the signal words.

Frogs and Toads

FROGS		TOADS
Slim	Amphibians	Fat
Agile	Have lungs, also breathe through skin	Slow moving
Smooth skin	Make sounds to attract mates	Warty skin
Relies on large, powerful legs for defense	Diet: insects, worms	Puffs itself up with air for defense

3   Teaching Compare and Contrast Structures

Name: _____ Date: _____

In pairs, compare your paragraphs with this model paragraph developed from the graphic organizer. Discuss their similarities and differences.

Frogs and Toads

Frogs and toads—how can you tell them apart? Even though they are similar in appearance, frogs and toads do have some notable differences. On one hand, the frog is slim, agile, and has smooth skin. On the other hand, the toad is fat, slow moving, and has warty skin. Another difference is how each defends itself. When threatened, the frog relies on its large, powerful back legs to leap to safety, whereas the toad puffs itself up with so much air it is impossible for a small snake to swallow it. However, the frog and toad do have a lot in common. They are both amphibians, which means that they live in the water and on land. Each has lungs and can breathe by absorbing oxygen through its skin. The sounds they make are also similar. Male frogs and toads croak to attract females in the breeding season. Both of these amphibians eat almost anything, with their usual diet being insects. Knowing these characteristics should help you the next time you are trying to decide if the amphibian you are looking at is a frog or a toad.

Name: _____ Date: _____

In pairs, write your own paragraph using this graphic organizer. Remember that your topic sentence must indicate a problem.

Bullying

Solution

Problem

Bullying

Tell someone: a friend, parent, or teacher.

Stay calm, walk away.

Join a nearby group of people.

Tell bully to leave you alone.