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Using Discourse Patterns to Improve Reading Comprehension

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1. Introduction

One of the biggest challenges facing reading teachers is how to teach reading comprehension skills and not just assess comprehension. Comprehension questions can be very useful if they lead to discussion about what the text means and if information in the text is explored for greater understanding. Strategy training is another way to provide comprehension instruction. Asking students to engage in predicting, clarifying, summarizing, questioning, goal setting, reviewing, and noting text organization—all done while discussing the meaning of the text information—will provide real comprehension instruction

for students. A third way to promote effective comprehension instruction is by working with graphic representations of the discourse patterns in the text. When students see how information is organized in text and how that information can be arranged in graphic organizers, the information in the text is much easier to comprehend. This instructional approach is a logical extension of text organization and how fluent readers understand it.

Writers use lexis, discourse markers, and organizational patterns to signal how a text should be understood (Grabe, 1997, 2000). Texts are understood through reader interpretation of the larger organization structures signaled by the writer. These organizational structures can be demonstrated to students fairly easily, and they can offer students important insights into understanding and learning from texts. This paper begins by noting evidence for major discourse structure mechanisms that contribute to text comprehension. It then focuses on one mechanism, that is, discourse patterns in instructional texts, and concludes with instructional options to support reading comprehension.

2. The Importance of Discourse Structure

For applied linguists, when considering older students and more advanced L2 students for learning purposes, a much greater emphasis is typically placed on expository prose processing. These students need to understand the more abstract patterns of text structuring in expository prose, which informs the reader's efforts at comprehension. While advanced expository texts are typically denser and present more complex information than texts of a more general nature, they are, nevertheless, assumed to be understandable with relatively little ambiguity. One of the major reasons for this assumption is the role played by discourse structures in texts.

Discourse, or text, structures can be understood as knowledge structures or basic rhetorical patterns in texts. Discourse structures have functional purposes and these purposes are recognized by good readers and writers, if only implicitly in some cases. Moreover, these discourse mechanisms extend to the level of genre and larger frames of discourse that organize textual information for the reader. There are well recognized conventions and systems that lead a reader to preferred interpretations, assuming a reader is genuinely interested in understanding what the writer had intended.

Discourse structures are relatively few in number and recur in many combinations. However, it is usually possible to identify one or two overarching structures that organize instructional texts, and there usually are two or three discourse structures used to organize subsections of a longer text. For expository prose, these structures include description, sequence, procedure, cause and effect, comparison and contrast, definition, classification, problem—solution, and analysis (cf. types of narrative patterns for literary, personal, and historical texts) (Martin 1989, 2000; Mohan, 1986). There are a number of possible minor variations in analyzing these sub systems, but the general notions are consistent. Moreover, these text structures are useful for instructional purposes:

“In general, we have found incredibly positive support for just about any approach to text structure instruction for expository prose. It appears that any sort of systematic attention to clues that reveal how the authors attempt to relate ideas to one another or any sort of systematic attempt to impose structure on a text, especially in some sort of visual representation of the relationship among key ideas, facilitates comprehension as well as both short-term and long-term memory for the text. (Pearson and Fielding, 1991: 832)

3. Arguments and Evidence Commonly Recognized and Accepted by Applied Linguists and Reading Researchers

3.1 Structural Hierarchy in Texts

Research on discourse analysis and language comprehension has increasingly demonstrated that levels of text structure have a strong impact on reading comprehension. Thus, main ideas, organizing ideas, and informational details tend to be remembered differently, with main ideas remembered better. Following from these results, there is now a considerable body of research evidence, which supports the use of discourse analysis and text structure instruction as a means for improving reading comprehension. These results apply especially to informational, or expository, texts more so than to narrative texts.

Early efforts to focus on the usefulness of text structure have demonstrated that texts are hierarchically organized and that readers tend to focus on and remember information at higher levels in the text hierarchy. This work has also shown that better students seem to recognize and use top-level structuring to assist recall and comprehension. Top-level structuring can be taught so that students will recognize this aspect of texts and use it to assist in their own comprehension (Meyer, Brandt, and Bluth, 1980; McNamara, Kintsch, Songer & Kintsch, 1996; Taylor, 1982). “Top level,” the standard term developed by Walter Kintsch over 20 years ago, refers to the highest level of discourse organization. Similar research has been carried out by Carrell (1984, 1985, 1992; Carrell, Pharis & Liberto, 1989) for L2 students. Moreover, students who recognize hierarchical text structure independently (though not necessarily consciously) and make use of it in their comprehension processing are likely to have

better comprehension and recall more information (Armbruster, Anderson & Ostertag, 1987; Armbruster, Anderson & Meyer, 1991; Carrell, 1984, 1985, 1992; McGee, 1982; Richgels, McGee, Lomax & Sheard, 1987; Taylor, 1992; Taylor and Beach, 1984).

3.2 Teaching Text Structure

A major issue concerning the influence of text structure is the extent to which such knowledge can be directly taught to students so that it will lead to improved comprehension. There are three major lines of research on the effect of text structure instruction. One line of research involves the impact of direct instruction, which explicitly raises student awareness of specific text structuring (Armbruster et al., 1987; Carrell, 1985; Duke & Pearson, 2002; Miller & George, 1992). This research emphasizes the uses of transition words, topic sentences, sentence-initial phrases, anaphoric linkages and definite reference to prior text ideas, and the role of various grammatical structures to build coherence in texts.

A second line of research develops student awareness of text structure through graphic organizers, semantic maps, outline grids, tree diagrams, and hierarchical summaries (Alvermann, 1986; Armbruster, et al., 1991; Berkowitz, 1986; Guri-Rosenblit, 1989; Tang, 1992; Taylor, 1992; Taylor and Beach, 1984; Trabasso & Bouchard, 2002; Vacca, 2002; Vacca & Vacca, 1999). This research demonstrates that students comprehend texts better when they are shown visually how text information is organized (along with the linguistic clues that signal this organization). Various types of visual representations that reflect how information and ideas in texts are organized and presented are used as a discourse awareness approach with students. When these visual representations (graphic organizers) are used on a regular basis, students consistently demonstrate significant improvement in their reading comprehension with academic expository texts.

A third line of instructional training follows from instruction in reading strategies. Because a number of reading strategy training approaches include attention to structure, main idea identification, and text study skills, this line of instructional research is also a source of studies supporting text structure instruction. Thus, strategy training which includes summarizing, semantic mapping, predicting, forming questions from headings and sub-headings, and using adjunct questions all appear to improve awareness of text structure and text comprehension (Block and Pressley, 2002; Carrell et al., 1989; Pressley, 2002; Pressley and Afflerbach, 1995; Pressley, Johnson, Symons, Goldrich & Kurita, 1989; Vacca, 2002).

All three lines of research argue that instruction, which focuses on text structure, increases comprehension and learning. These three research trends also indirectly argue that texts provide guidelines for the construction of the reader's comprehension; that is, texts provide the coherence-building directions used by readers.

4. Exploring A Text

In the remaining part of this paper, I will provide a simple analysis of how graphic representations can be applied to understanding the discourse structure of a text. This analysis will examine a low-advanced instructional text, "How Muzak Manipulates You" (taken from Blanchard and Root 1996, Volume 4). The text, in Appendix A, offers examples of standard discourse structuring that are easy to put into standard graphic formats (of which there are probably no more than 15 types altogether). The text discussed here is a "cause and effect" text. It presents a problem but does not present a solution. Since problem-solution texts must present both problems and solutions, this text is not a problem-solution text. It does, however, clearly focus on a problem, and most problems that are described require an explanation in terms of cause and effect relations. Because a

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large part of the text is devoted to many causes and effects, this text is readily understandable as a cause and effect text, even though other discourse patterns are recognizable in organizing sub-sections of the text. (It is important to note that almost all texts typically have a pattern or two that organizes the major information, but they also use other basic patterns to organize sub-sets of information. Readers interested in how the following analysis works should turn to the brief text in the Appendix A now and read it through before continuing.)

In order to set up the cause and effect explanations of the topic, muzak, the text first needs to define muzak itself and also a key process in the use of muzak: stimulus progression. These definitions appear respectively in paragraph one and in paragraphs seven and eight. In both cases, a graphic representation can be set up within the definition frame: X is a Y that Z. In paragraph one: Muzak is a type of music that directs behavior. In paragraphs seven and eight: Stimulus progression is a sequence of tunes that give workers and shoppers a needed boost. Both of these patterns can be supported by a simple set of boxes with “is a” and “that” in between the boxes (see a definition graphic in Figure 1). Students can be asked to fill in the boxes as individuals or in groups to decide what the key terms mean.

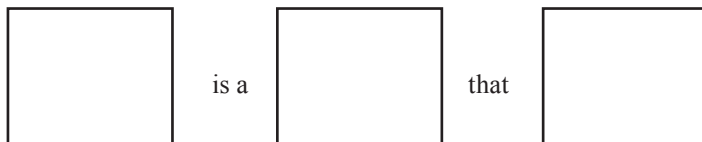


Figure 1: Definition (P1 and 7)

In addition, the term “stimulus progression” can be explained further by a sequence graphic. This flowchart is a simple set of boxes in a line that are connected by a set of arrows moving from box to box (see Figure 2). Because this graphic representation is a bit more complex, the teacher can begin the class by modeling the task and filling in 2 or 3 boxes. Alternatively, to make the task more manageable the chart can already include 2 or 3 filled in boxes.

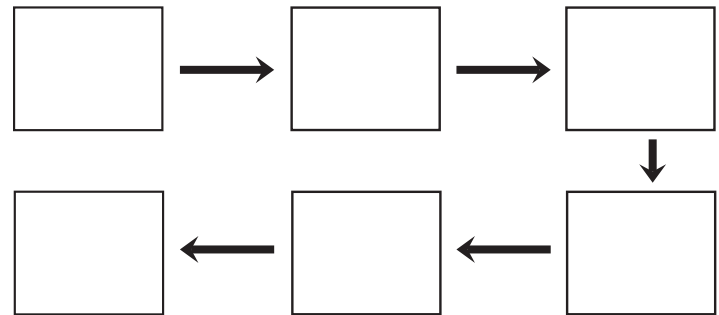


Figure 2: Sequence (P 7 and 8)

A third key graphic is a simple cause and effect pattern. When cause and effect explanations are provided as sets of simple examples, they can be represented graphically as two boxes side by side with an arrow in between. In the cases of the present texts, multiple cause and effect examples are provided in paragraphs 3, 4, 6, 9, and 10. (Paragraph ten explains a reverse cause and effect relation where the muzak is absent.)

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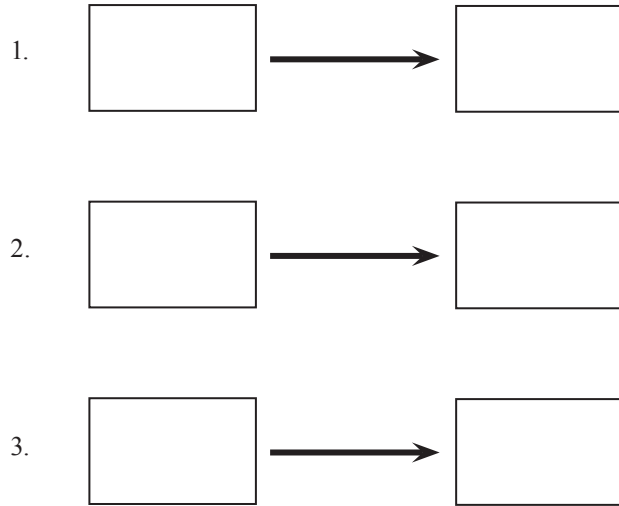


Figure 3: Cause & Effect (P 3, 4, 6, 9, 10)

A final discourse pattern organizes the last two paragraphs. In paragraph five, the text provides a simple descriptive listing of companies that provide muzak (a list would do as a graphic representation for paragraph 5). Two of the companies are discussed in the final two paragraphs (11 and 12): Muzak and General Background Music (GBM). In paragraph eleven, the two companies are noted as doing similar things. In paragraph twelve, the two companies are described as providing somewhat different services. This information can be presented graphically with a simple comparison and contrast frame. In the upper half

of a large box, similarities are listed, in the bottom half of the large box (below the line), the two companies are described by their differences in two separate sub-boxes (see Figure 4).

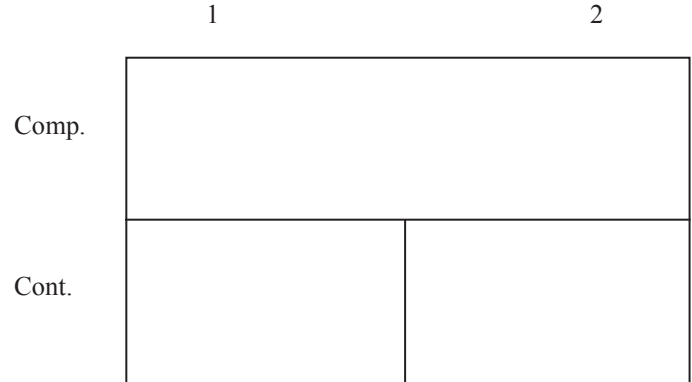


Figure 4: Comparison & Contrast (P 11 & 12)

This one example text has provided four major discourse patterns to organize the major information and sub-sets of information. As such, the example text represents almost 1/3 of all standard graphic representation patterns that can be found in expository texts (and so is a good example).

5. Instructional Implications of Text Structure Awareness

The key idea behind the use of graphic representations to teach text structure and reading comprehension is the need to demonstrate these patterns of organization consistently across the instructional texts that student read. Students will quickly see the power of the idea of graphic representations if this instruction is done well and done regularly. It is important that teachers not insist on only one pattern in an instructional text or that there is only one way to represent major information (some texts can be either one or another discourse pattern, depending on the perspective taken). Longer texts will especially employ a number of discourse patterns to organize sub-sets of information, and that is common in texts for instructional purposes. But the key idea is that these patterns are not very numerous (maybe 12-15 major patterns in all for expository prose) and they recur regularly across many texts.

Once students (and teachers) begin to see how text information is organized in consistent ways, they will also begin to recognize all types of discourse signals as contributing to a small set of recurring patterns. These signals will no longer be seen as hundreds of individual and arbitrary cues (that can seem very confusing to students). Rather, they will be seen as working together to help convey the larger text structure. Students will be able to connect information in ways that will assist their overall comprehension of texts. With improved overall comprehension of a text, it is also easier to focus on key grammatical complexities and vocabulary learning. Students will not be so lost with the text that they cannot focus on some difficult details. The text will then become a real context for guessing only partially known words (particularly when rereading the text for additional post-reading tasks).

Finally, the use of graphic representations, or graphic organizers, as part of comprehension instruction, has many additional benefits. It is a strong foundation for speaking and writing activities and assignments, using the relevant information from texts and other sources more effectively. Students have a better idea of the information to be used and how the information can be organized in their own work. Students will also learn vocabulary better and will be able to carry out more complex post-reading activities. Moreover, graphic representations provide an important foundation for content-based and task-based instruction. The graphic information itself provides ways to maintain more complex sets of information and make accurate comparisons and syntheses across related sources of information on a theme. This sort of complexity in language classrooms is also motivating because students are able to carry out more complex assignments successfully. They know that they are learning real information about the real world, something worth investing their time and energy into. And having more motivated students from these successes is really at the heart of language learning and reading instruction. Graphic representations in reading instruction are one effective way to move toward this goal.

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Appendix A: How Muzak Manipulates You (from Blanchard and Root, 1996, Volume 4)

THE POWER OF MUSIC / UNIT 6

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How Muzak Manipulates You

ANDREA DORFMAN

- 1 Every day millions of people in offices, supermarkets, and factories worldwide hear the sounds of Muzak. The soundtrack has been carefully engineered to direct behavior—to improve employee performance by reducing job stress, boredom, and fatigue or to control consumers' shopping habits.
- 2 Background music can help or hurt business, concludes Ronald Milliman, a marketing professor at Loyola University in New Orleans. "Very few stores that play music play it for any particular purpose," he says. "But walking into an environment where music is playing apparently makes a difference."
- 3 Milliman measured the effects of fast and slow-tempo music on a supermarket's traffic flow and sales. Fast music hardly affected sales when compared with no music, he reported in the *Journal of Marketing*, but pieces played slowly made shoppers slower and increased receipts 38 percent above what they had been when fast music was playing.

Increases Patience

- 4 Restaurants can also use music advantageously, he found. In the evening, slow-paced music lengthens meals and increases the patience of waiting customers. When quick turnover is important—lunch, for example—lively music does the trick.
- 5 The best-known supplier of background music is a company called Muzak. It was started by a group of businessmen in Cleveland, Ohio, in the early 1930s. But Muzak is not the only company of its kind. In Chicago, there is Musi-Call. In California, Musicast. And in the New York area, General Background Music (GBM).
- 6 Muzak calls its product "environmental music" and has done over one hundred studies—from simple surveys of employee responses to comparison of production output before and after Muzak installation—to prove its effectiveness. Improvement generally ranges from 5 to 10 percent to as much as 30 percent.

SELECTION 2

Results are easier to obtain when routine tasks are involved, but people with relatively interesting jobs are also affected.

- 7 The key to Muzak's programs is something called stimulus progression. What that means is that each tune is given a stimulus code based on its tempo and instrumentation. "We punch these codes into our computer, and it puts the material into fifteen-minute segments of five tunes each," music director Ralph Smith explains. "We start with a slow tune that has a low-stimulus value, and gradually build to an up-tempo, pop sound."
- 8 After a two-minute pause, a new segment begins on a stimulus level that's higher than the preceding ones. In this way, the day's program builds to mid-morning and mid-afternoon crescendos that are designed to give workers a needed boost.
- 9 "Since Muzak's main function is in the workplace, we naturally have to program against people's normal slumps," Smith notes. "Around ten-thirty, you're running down a little, but lunch is still a distance away. So, about ten-fifteen, the stimulus value for the entire segment jumps up to bring you out of the doldrums."
- 10 "Changing the order of things produces a different effect," says psychologist William Wokoun, chairman of Muzak's scientific advisory board. "When this so-called ascending program is played in reverse, it seems to lull people to sleep. Reaction times become slower and more variable."
- 11 Like Muzak, GBM focuses on the mind of the nine-to-five employee. "All day long, you have ups and downs, peaks and valleys," vice president Mel Bernstein explains. "During key periods, psychological programmers change the tempo to increase workers' adrenaline flow, which in turn increases their efficiency. The music becomes part of the surroundings. Workers no longer notice its effects on their behavior."
- 12 The difference between GBM and Muzak, say Bernstein, is that Muzak isn't regional: it has only one product. "But there is a very definite New York sound," he asserts, "just as there is a Midwest sound and a Los Angeles sound. And we even have rainy-day music."