

Original Paper

How to Develop a Structure Strategy: A Framework for Japanese College Students

Kenmei SHIMIZU

*Department of Medical Social Work
Faculty of Medical Welfare
Kawasaki University of Medical Welfare
Kurashiki, 701-01, Japan
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Abstract

With a structure strategy, the reader reads a written text as a structured whole, not as a list of sentences or propositions. Japanese college students learning English as a foreign language have been taught to read a written English text sentence by sentence and not accustomed to relating in a coherent way. No frameworks have been proposed to enable Japanese readers to read English expository texts in a coherent way.

In this paper, a simple instruction for distinguishing propositions of higher importance from propositions of lower importance is proposed as the first step to attain a structure strategy and the effect of this on the reading habits of Japanese college students will be discussed.

Introduction

Accustomed to reading English sentence by sentence and deciphering each sentence word by word, Japanese college students learning English as a foreign language are often satisfied with, at best, relating neighboring sentences and do not try to find a thread of coherence in what they read. Then, what steps should be taken to direct them to read an English passage as a semantically structured whole, not as a list of unrelated sentences? As argued and confirmed by several researchers, English readers who successfully build or infer coherence utilize the

same strategy when reading English expository texts, and this is called "a structure strategy"¹⁾. With this structure strategy, the reader builds coherence from explicit connective expressions or infers coherence from clues implicitly given, as well as his or her background knowledge of English text structure.

In this paper, it will be shown how Japanese college students improve their reading after being instructed to read a written text with a strategy of distinguishing given information of greater importance from that of lesser importance in terms of the over-all content structure of the text. Though this

may not exactly called a structure strategy, it is certainly a proper step to begin with and one step closer to a structure strategy itself.

Global vs. Local²⁾

Almost all the researchers analyzing how a text is organized divide the propositions of a text into a hierarchical structure or levels. Each has his or her own procedures for dividing into levels³⁾. Some of these procedures are said to be rather arbitrary or intuition-based while others are claimed to be more mechanical or intuition-free⁴⁾. Except for some well-signaled texts or texts with enough explicit connective expressions on the global level, however, there seem to be no texts which are mechanically and automatically analyzed and divided into one and the same structure by any reader.

Then, we need a more simple and easy-to-handle framework or grid with which Japanese college students reading an English text can divide the text into levels of importance, building or inferring coherence. Not all the propositions comprising a text contribute equally to making up the meaning of the text as a whole: some contribute much more than others. For the framework proposed in this paper, the propositions of a text are divided into two levels or stratifications according to the degree to which each proposition contributes to making up the whole meaning of the text. Global coherence, the main and central thread of logic, is built or inferred from the propositions of the highest importance or global propositions. On the other hand, local coherence, which supports, exemplifies, and/or details aspects of the global coherence, is built or inferred from the propositions of lesser and peripheral importance or local propositions. With the structure strategy, the reader is supposed to follow mainly the global propositions, building or inferring the

global coherence of the text.

How the global propositions of a passage are related to each other is not discussed in this paper. Nor is it discussed to which type of text structure or top-level-structure each passage belongs to, either. This is because the primary objective of this study is to see how each student can become conscious of the difference between two ways of reading as expository text, reading it as a structured whole or as merely a list of sentences.

Subjects and Procedures

During the first class of their freshman English course, 70 students of Kawasaki University of Medical Welfare (none of them, English majors) were told, as a pretest, to read two English expository passages and, immediately after that, write down in Japanese what they thought was the important information of the passages. They were given three minutes to read and five minutes to write down for each passage.

During the four regular classes after the pretest, all the students took the same English course using the same materials, *Time* articles. (The two groups were not in the same classroom, but read the same *Time* articles.) Half of the students (the experimental group, $n=33$), however, were taught which propositions in the *Time* articles they read for each class were on the global level and which on the local level. For the regular classes with the other half of the students (the control group, $n=37$), emphasis was put on how each sentence of the *Time* articles should be interpreted, without referring to the levels of importance of each proposition.

After the four regular classes, all the students were told, as a posttest, to read the same two passages that were used for the pretest and, immediately after that, to write down what they thought was the important

information of the passages. They were given three minutes to read and five minutes to write down for each passage.

Materials

Both of the passages (see Appendix) are one-paragraph long with 103 words for Passage A, "Supertanker", and 102 words for Passage B, "Chicken-Hawks". Every word the meaning of which the writer thought the majority of the students would not know or might be uncertain of was given its meaning in Japanese on the same sheet with each passage.

Scoring

All the explicit propositions comprising the two test passages were divided into two levels, global or local by the writer.

Passage A has a problem/solution text structure, which is indicated by such explicit expressions as "a problem" and "the solution to the problem". The propositions stating what the problem is and what the solutions are were judged to be on the global level (Level I) with the rest of the propositions on the local level. The local level is further divided into a higher level and a lower level. On the higher level (Level II), the cause and effect of the problem is described and, on the

lower level (Level III), a typical supertanker is described.

Passage B has chains of causal relations. The chain of causal relations stating why the farmers' stored grain was eaten by rats was judged to be on the global level (Level I) with the rest of the propositions on the local level (Level II).

Any correct translation of each element of a proposition (predicates and arguments) in the text passage was scored. When the students' recall protocols included correct translations of correctly inferred propositions, they were scored, too.

Results

Table 1 and Table 2 show the average recall scores for the experimental group and the control group, respectively. The t-test showed no significant difference between the average scores on the pretest of the two groups on any of the levels except on Level II of Passage A, where the control group scored significantly higher than the experimental group ($t=3.47$, $p<0.001$). The average scores on the posttest of the experimental group were higher on Levels I and II of Passage A and on Level I of Passage B and were lower on Level III of Passage A and Level II of Passage B than those of the control group.

Table 1 Average Recall Scores of the Experimental Group (n=33)

Passage A			
Level	I (s. d.)	II (s. d.)	III (s. d.)
Pretest	2.61 (2.47)	4.88 (3.42)	1.33 (2.43)
Posttest	10.12 (10.30)	9.83 (3.56)	1.33 (2.36)

Passage B		
Level	I (s. d.)	II (s. d.)
Pretest	8.03 (5.46)	5.12 (3.74)
Posttest	14.09 (5.49)	6.30 (4.37)

Table 2 Average Recall Scores of the Control Group (n=37)

Passage A			
Level	I (s. d.)	II (s. d.)	III (s. d.)
Pretest	3.38 (3.41)	6.78 (2.76)	1.19 (1.84)
Posttest	7.70 (4.47)	9.13 (3.34)	3.43 (3.02)

Passage B		
Level	I (s. d.)	II (s. d.)
Pretest	9.76 (5.71)	4.89 (4.32)
Posttest	13.73 (7.41)	7.97 (4.03)

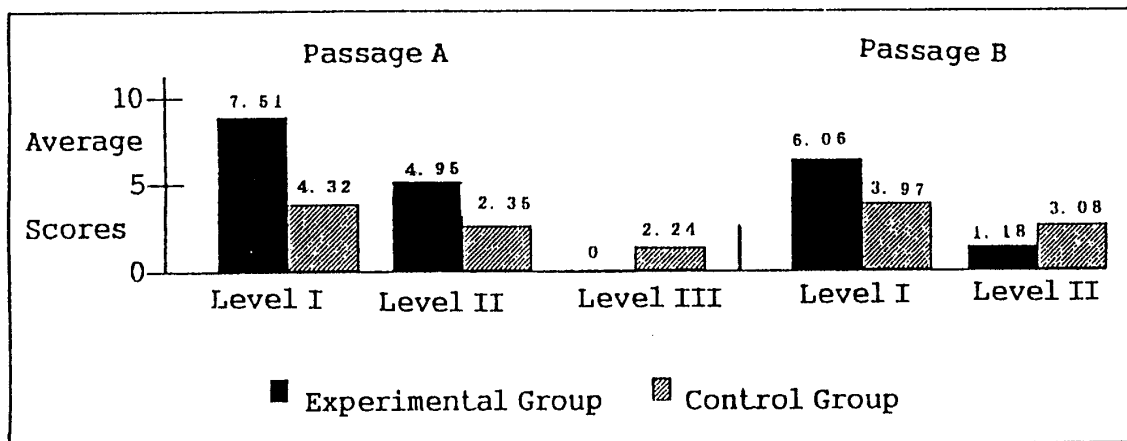


Fig 1. Scores the Two Groups Gained More on the Posttest than on the Pretest

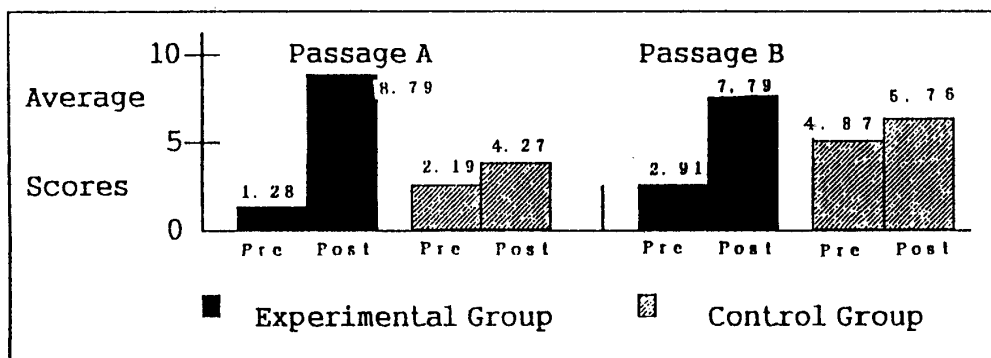


Fig 2. Difference between the Average Scores on the Global Level and the Local Level

There was, however, no significant difference except on Level III of Passage A ($t=3.19$, $p<0.01$).

Figure 1 illustrates how many more points each group gained on the posttest than on the pretest. For the experimental group, the average scores on the posttest were significantly higher on Level I ($t=4.07$, $p<0.001$) and Level II ($t=5.77$, $p<0.001$) of Passage A and Level I ($t=4.52$, $p<0.001$) of passage B than those on the pretest. For the control group, the average scores of the posttest were significantly higher on Level I ($t=4.67$, $p<0.01$), Level II ($t=3.31$, $p<0.01$) and Level III ($t=3.86$, $p<0.001$) of Passage A and on Level I ($t=2.58$, $p<0.05$) and Level II ($t=3.175$, $p<0.01$) of Passage B than those on the pretest. Only on Level II of Passage B for the experimental group was there no significant difference.

Figure 2 illustrates the difference between the average scores on the global level (Level I) and the local level (Level III for Passage A and Level II for Passage B). For the experimental group, the average scores on the posttest were significantly higher on the global level of both passages than on the local level of the respective passages (for both, $p<0.001$). For the control group, the average scores on the posttest were significantly higher on the global level of both passages than on the local level of the respective passages (for both, $p<0.001$). On the pretest, the average scores on the global level only of Passage B were significantly higher ($p<0.001$) than those on the local level.

Discussion

As shown in Figure 1, the experimental

group gained much higher scores on Levels I and II of Passage A and Level I of Passage B on the posttest than did the control group. Level I of both Passage A and Passage B was defined as global and Level II of Passage B as more global than Level III of Passage B. On the other hand, on the local levels of Level III of Passage A and Level II of Passage B, the control group gained much better scores than the experimental group. That is, though they could not “see the woods”, they did better on the trees.

First, it is noteworthy that only four 90 minute classes made this difference. Though some other factors may have influenced these results, it is certain that the simple instruction given to the experimental group to divide propositions into global and local ones when reading an English expository text contributed much to this difference.

Passage A has a rather clear text structure with explicit expressions indicating the global propositions. Passage B, on the other hand, does not have enough explicit expressions signaling its text structure. For example, the reason why “farmers began to kill the chicken-hawks” in the first sentence of the passage, is not given in the passage. To successfully find the global propositions, the reader must infer the reason, “The chicken-hawks had eaten the farmers’ chickens”, after reading the whole passage or from the title, *Chicken-Hawks*. This might explain why the scores the experimental group gained on the global level of Passage B are a little lower than those on the global level of Passage A.

Second, the scores the control group gained on the global and local levels are rather even. Though, because they read the same passages for the second time after a six-week interval, they were expected to score higher than on the pretest, it must be noted that they gained almost evenly in spite of the difference of the

level. It could be assumed that because of the lack of the instruction given to the experimental group there was no “levels effect” in the scores of the control group⁵). This is very conspicuous compared with the levels effect found in the scores of the experimental group. The experimental group gained much more on the global levels than on the local levels.

Third, as shown in Figure 2, both for Passage A and Passage B, the difference between the average scores on the global level and the local level increased much more for the experimental group than for the control group. This also indicates that for the experimental group the propositions on the higher level are recalled much more clearly than those on the lower level—another instance of the levels effect.

Last, in terms of the t-statistics, when the scores on the pretest were compared with those on the posttest, the control group’s scores showed a significant difference in almost all the cases, while the experimental group’s scores showed significant difference selectively in the cases where the use of a strategy of distinguishing global propositions from local propositions can best explain the difference.

Conclusion

With a structure strategy, the reader reads an expository text as a structured whole with each proposition seen as belonging to different levels of importance and identifies to which type of text structure the text belongs. The instruction given to the experimental group for the regular classes, however, was not detailed enough to enable them to identify the type of text structure. For every paragraph they read, they were just told to find which sentences are more important in building the whole meaning of the paragraph.

The results of this instruction, however,

made such a great difference between the scores of the experimental group and the control group that one would be justified to assume that the experimental group was able to read with a structure strategy or, at least, were on their way to forming the first step toward the structure strategy. They recalled more of the global propositions and less of the local propositions on the posttest than on the pretest and than the control group did, by making use of explicit signaling expressions or inferring from implicit propositions or

their knowledge of text structure.

All good readers should read an expository text, regardless of the language in which the text is written, with a structure strategy in order to read it as a structured whole, not as a list of independent sentences. In this sense, Japanese college students have a lot of opportunities of developing their reading strategy and their teachers also have a lot of opportunities of teaching the students how to gain a sense of structure strategy.

References

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Notes

- 1) For example, see Meyer et al (1980).
- 2) This dichotomy into local and global is more similar to that of nucleus and adjunct in Fox (1987) than to that of microproposition and macroproposition or global coherence and local coherence in van Dijk and Kintch (1983) in that the former is more text-based than the latter.
- 3) All of these are for analyzing how readers comprehend texts written in their native language, not for instructing how readers should comprehend texts written in their second or foreign languages.
- 4) In Meyer (1985), it is argued that Meyer's approach to prose analysis is logical while Kintsch's is intuition-based. The writer thinks that it is impossible to do any type of prose analysis without, more or less, relying on intuition and this intuition will become more accurate by reading a lot of texts and by the habit of logical thinking.
- 5) As argued in Voss and Bisanz (1985), the levels effect is established by the text structure, not the content of particular segments.

Appendix

(Passage A)

Supertanker

A problem of vital concern is the prevention of oil spills from supertankers. A typical supertanker carries a half-million tons of oil and is the size of five football fields. A wrecked supetankers spills oil in the ocean; this oil kills animals, birds, and microscopic plant life. The solution to the problem is not to immediately halt the use of tankers on the ocean since about 80 percent of the world's oil supply is carried by supertankers. Instead, the solution lies in the training of officers of supertankers, better building of tankers, and installing ground control stations to guide tankers near shore.

(_____ for Level I, _____ for Lelel II, and _____ for Level III)

(Passage B)

Chicken-Hawks

In one district, farmers began to kill the chicken-hawks. Large parties of men would go on birdshoots. They not only shot adult birds, but also destroyed nests and breeding areas used by the hawks. And young found in the nests were killed immediately. As a result of these hunts the farmers' chickens were not eaten. But, the farmers found something else wrong. Their store of grain in the barns was eaten by rats. Soon the rats were overrunning the farms. There was nothing to stop the spread of the rats. The farmers had removed a natural enemy of the rats — the chicken-hawk.

(_____ for Level I and _____ for Level II)