宏觀命題分析與中國學生閱讀英文說明文之關係

一、中文摘要

　　說明文是最常被採用之文體。在台灣，大學生必須閱讀大量說明文體的英文文章來達到課程的要求，或滿足個人之求知慾。如何指導學生有效的閱讀英文說明文，並將其內容轉成個人之記憶，以應用於生活中，極為重要。為達此目的，首先必須了解構成英文說明文的要素，及其間之關係。本研究主要在於分析英文說明文中宏觀命題間之關係。研究方法採用Meyer(1975,1981,1985)的散文分析系統來辨識及類歸英文說明文中及學生記憶文本內常出現之邏輯和修辭關係。研究對象為文化大學兩班大一英文的學生。所有蒐集的資料由兩位評分者分析及歸類。研究結果顯示（一）英文說明文中修辭關係的層級會影響中文讀者對文章的理解和記憶；（二）學生之英文程度對這些關係的理解和記憶有相當程度的影響；（三）課室中有關修辭關係之教學對增進學生對文章的記憶有限。原因探討列於文末。

關鍵字： 英文說明文　　內容結構　宏觀命題　宏觀命題之分析　　邏輯關係　修辭關係　　散文分析系統

Macropropositional Analysis and EFL Readers' Comprehension of English Expository Text

Abstract

Expository text is the most frequently adopted type of text that serves a variety of purposes in a wide range of settings. In an EFL setting like Taiwan, most college students need to read expository texts in English to get the information they need to fulfill the course requirements or satisfy their curiosities. Thus, it is important for students to learn the ways to get the most out of an English expository text. To address this issue, it's important to realize what constitutes an English expository text, and in what ways and to what extent can Chinese students represent the information in the text in their memory for later use. A text constitutes many layers of elements. It is crucial to understand the relationships between and within these different levels of elements. The focus of the study is on the relationships at the macropropositional level in the expository texts. Various relations at the macropropositional level in the target text were identified and the recall protocols of the subjects were analyzed and classified following Meyer's (1975, 1982, 1985) prose analysis procedure by two trained raters. The results showed that (1) subjects identified and recalled more high level idea units than low level ones; (2) subjects' English proficiency influenced to a considerable extent their recall of the major rhetorical relations in the chosen expository text; and (3) the effect of instruction on the rhetorical relations in a text was limited with respect to increasing the subject's

memory of the target passage. Evaluation of the results and discussion of the possible contributing factors are presented at the end of the report.

Keywords: EFL readers expository text
content structure   macropropositions
macropropositional analysis
logical relations   rhetorical relations
prose analysis procedure

II. Background and Purpose

The purposes of the study are to first identify the major intersentential relationships that frequently occur in a typical expository text for EFL readers; second, decide how these important relations that bind ideas influence EFL readers' comprehension and recall of the passage; third, decide whether students' proficiency levels in English affect their processing and recall of these relations; and four, determine whether the classroom instructions can facilitate EFL readers' encoding these relations and thus increase their comprehension and retention of information in the expository text.

The concept of content structure was advocated to address the issue of relations of ideas in expository text. The content structure was proposed and employed as a prose analysis procedure by Meyer (see Meyer, 1975, 1980, 1985) to investigate the reading comprehension of expository text. It's held that the content structure is the representation of the writer's concept and logic embedded in the text. Thus, the relations in the content structure tend to be logical or rhetorical (quasi-logical) (Meyer, 1980, 1985; Kintsch, 1982). During reading, a skilled reader is believed to be able to reconstruct this representation in his/or her memory. Accordingly, the representation of the text in the capable reader's memory is assumed to be parallel, more or less, to that of the content structure in the text.

As claimed by Meyer (1980), the content structure delineates the relations between ideas in a passage. It shows how certain ideas are superordinate to others in the passage. In a typical expository text, ideas or arguments are presented in a hierarchical fashion: some ideas appear at the top levels of the content structure, some at middle levels, and still others at the lower levels of the structure. The ideas at the top levels of the content structure subsume the levels of ideas beneath them and are connected to them "in a direct downward path in the structure" (Meyer, 1980, p. 203). These top level ideas dictate the ideas that are subordinate to them. The lower level ideas provide information about or explain the ideas above them in the structure (Meyer, 1980). Thus, the comprehension process involves an active search and identification of the superordinate structure of relationships and the ideas that are bound by these relations (Meyer, 1985).

The content structure was also used by Meyer as a technique for prose analysis (see Meyer, 1980, 1985). As indicated by Meyer (1980), a passage can be decomposed into sub-propositions which are related to one another. Propositions comprise a predicate and its arguments. In Meyer's analysis procedure, there are two types of predicates: lexical predicates and rhetorical predicates. Rhetorical predicates, are concerned with ideas from the content of the text as well as the relations between these ideas. The rhetorical predicates often appear at higher levels in the structure of a passage, representing intersentential relationships. To specify and display the rhetorical predicates identified in her analysis of prose, Meyer employed a large set of labels to classify the inter-sentence and inter-paragraph relations in a text (Meyer, 1980, p. 204). The analysis at the macroproposition level is concerned with logical or

rhetorical relationships among ideas presented in complexes of propositions or paragraphs. In Meyer's approach, five major groups of relationships were identified (Meyer, 1985, p. 17):

1. *collection*: relation showing how ideas or events are related together into a group on the basis of some commonality;
2. *causation*: relation showing a causal relationship between ideas;
3. *response*: or *problem and solution,* similar to causation in that the problem is an antecedent for the solution;
4. *comparison*: differences and similarities between two or more topics;
5. *description*: giving more information about a topic by presenting attributes, specifics, manners, or settings.

As claimed by Meyer (1985), the above five rhetorical relations identified can be found in various combinations in expository text. And thus, they demonstrate a great number of possibilities for the superordinate relational structures of exposition (Meyer, 1985). In these hierarchically arranged structures, individual content units from the text or content units are parts of other propositions. The top-level structure is assumed to subsume the greatest amount of text (Meyer, 1985). The content structure is usually constructed or processed in a top-down fashion. That is, the top-level structure of the passage is first identified. Thus, the top-level structure corresponds to the overall organization of the text. Since it is concerned with superordinate propositions in text, the top-level structure or overall organization of the text as a whole emerges naturally as the comprehending task evolves (Meyer, 1985).

The content structure of a passage is seen as a decisive factor of comprehension and retention of information from the passage (Meyer, 1982). The practical implications of previous related studies are that when preparing curriculum materials, care should be given to the location of high-level information in the content structure of the instructional text in order to facilitate its retention. When students fail to detect the interrelations among ideas in the text, they may acquire only a fragmented representation of the content. Thus, providing them chances to experience this kind of text analysis in which they are able to discover the relations that bound the ideas and have an overview of the total structural pattern of passage may considerably enhance their reading comprehension (Meyer, 1982, p. 322).

III. Results and Discussion

The result of the pretest showed that the subjects of the experimental and the control group were at the approximately same level in English proficiency when the teaching experiment was conducted. The results of the *t test* comparing the two groups' scores of the proficiency test showed that the means of the two groups were nearly identical: X=48.19, N=63; Y=48.24, N=76.

The rhetorical relations in the target expository text *Culture Shock* were first identifid: The two major rhetorical relations are *problem-response* and *comparison-contrast*. All the idea units were hierarchically presented according to four levels—top, high, middle, and low. See figure 1 for one segment of the representation of the text in different rhetorical relations in a hierarchical fashion.

Figure 1: Content-Structure Diagram of Hierarchy of Ideas Units in the Passage

Ⓣ *Culture Shock*

Problem

Ⓣ *Blackmore, an exchange student, experienced culture shock in the US.*

3
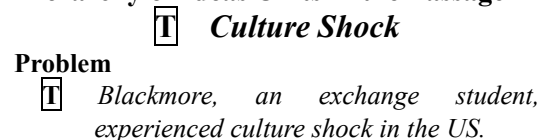
Comparison
| H | *There is a sea of difference between reading about and experiencing America firsthand.*

Comparison
| H | *She felt the difference as soon as she stepped off the plane.*

    Description
| M | *It was more like culture trauma for this adventurous student*

      Description
| L | *who left Melbourne's Monash University to spend her junior year at Boston College.*

(T: topic; H: high; M: mid; L: low)

The amount of different levels idea units recalled by the subjects were obtained by using the statistical procedure *Univariate Analysis of Variance*. The value of an idea unit was decided by if it appeared in the recall protocols. The results are shown in table 1 and table 2.

Table 1: The Means of the Four Levels Idea Units Obtained in *Immediate* Recall by Two Groups

group \ level	Experimental	Control	Total
Topic	6.00	4.00	5.00
Top	11.73	13.18	12.45
Mid	6.17	6.79	6.48
Low	6.78	9.56	8.17

.

Table 2: The Means of the Four Levels Idea Units Obtained in *Delayed* Recall by Two Groups

group \ level	Experimental	Control	Total
Topic	3.50	4.00	3.75
Top	10.55	14.82	12.68
Mid	5.04	7.50	6.27
Low	7.50	11.28	9.39

As expected, the top-level idea units were much better recalled than lower-level idea units in both immediate and delayed recall by the subjects of both the experimental and the control group. It suggests that Chinese readers when reading English expository texts were influenced by the hierarchical structure inherent in the text. Though some low-level idea units were recalled more than predicted, the fact that many low-level ones were highly related to the subject's existing schemata is a probable explanation for such a result.

In order to find out if proficiency level affected learners' processing rhetorical relationships in the text, all the subjects were collapsed into two major groups according to their performance on the pretest: 30 subjects in the higher proficiency group and 30 in the lower proficiency group. As shown in the table 3 and 4, the subjects of higher level recalled significantly more idea units on both tasks. As expected, the result of *t test* demonstrated that the differences between the means of the recalls of the two groups were rather significant. However, a qualitative analysis of how the two groups of subjects performed differently is necessary.

Table 3: *Immediate Recall* of High and Low Level Proficiency Groups

immediate \ group	N of idea units recalled	t-test means	Sig. (p<.05)
High	241	4.38	.017
Low	160	2.87	

Table 4: *Delayed Recall* of High and Low Level Proficiency Groups

delayed \ group	N of idea units recalled	t-test means	Sig. (p<.05)
High	257	4.62	.002
Low	145	2.60	

Table 5: Differences of *Immediate Recall* between Experimental and Control Groups

immediate \ group	N of idea units recalled	t-test means	Sig. (p<.05)
Experimental	411	7.47	.276
Control	488	8.87	

Table 6: Differences of *Delayed Recall* between Experimental and Control Groups

delayed group	N of idea units recalled	t-test means	Sig. (p<.05)
Experimental	379	6.89	.021
Control	554	10.07	

When comparing the performances of the experimental and the control group, the results (as shown in Table 5 and 6) were surprisingly contrary to the original hypothesis. That is, the experimental group, though given the instructions about rhetorical relations in the text, performed worse than the control group in both the immediate and delayed recall. Several factors might have contributed to this unexpected outcome. First, the two groups, though with similar English proficiency levels, belonged to different departments. The experimental group was business major, and the control group Japanese major. It is reasonable to assume that Japanese major subjects were more predisposed and motivated to learn a foreign language than business major subjects. A closer examination of the subjects' recall protocols did reveal the fact that a number of students might have previewed the target text before the teaching experiment and reviewed it after class before the delayed recall was administered. Second, the inferential instructions given by the teacher and the relevancy of the content of the text have had considerable effect on the subjects' memory of some propositions that were particularly interesting and highly relatable to the subjects' life experience. For instance, quite a lot of students remembered the details about the wrong side of the steering wheel in Australia and the American girls' obsession with staying slim, though these two idea units were deemed as low-level propositions. The facts suggest the importance of the role schemata played on the students' reading process. A closer investigation of how learners' content schemata interact with some particular text properties (i.e. rhetorical relations) during the comprehension process can shed much light on the L2 learners' reading process. Another likely explanation for the contradictory outcome might be that the instruction for the experimental group subjects on the rhetorical relations in the text was inadequately insufficient. Only a parsimonious portion of class time was allocated to give specific instruction on this particular property of the text, with the aid of one simple flow chart. Apparently, additional time and instructions explicating and comparing various rhetorical relations should be given to familiarize the subjects with this special approach to maximizing the memory of an expository in English.

IV. Evaluation

The greatest challenge faced in this teaching experiment is concerned with the nature of such an experiment. Any study of this sort is, strictly speaking, only a quasi-experiment, done as an integrative or additional part of regular teaching procedures. As the primary goal of any teaching task is for learners to better their behavior, thinking, and performance, it seems unjustifiable for the teacher to ask students to rigidly follow certain procedures that are necessary for a real experiment. Thus, as both a researcher and a teacher, I could not, for example, ask my students, the subjects, not to preview or review the target lesson. And even if I did ask them whether they did them, the answers might equally be doubtful, for the students might be so eager to please the teacher that they might give the answers the teacher sought. This being the case, the performances of the subjects were likely to be subjected to uncontrollable factors of the like, which might eventually tint the result of this type of

study. Possible ways to overcome such undesired outcomes include administering a carefully designed questionnaire and conducting qualitative examinations of the recall protocols of individual subjects.

References

Anderson, J. P. (1976). *Language, memory, and thought.* Hillsdale, NJ: Lawrence Erlbaum.

Bartlett, B. J. (1978). *Top-level structure as an organizational strategy for recall of classroom text.* Unpublished doctoral dissertation, Arizona State University.

Beaugrande, R. (1980). *Text, discourse, and process.* Norwood, NJ: Ablex.

Black, J. B. (1985). An exposition on understanding expository text. In B. K. Britton, & J. B. Black (Eds.), *Understanding expository text* (pp. 249-267). Hillsdale, NJ: Lawrence Erlbaum.

Brewer, W. F. (1980). Literary theory, rhetoric, and stylistics: Implications for psychology. In R. J. Spiro, B. C. Bruce, & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension.* Hillsdale, NJ: Lawrence Erlbaum.

Britton, B. K., Glynn, S., Meyer, B. J. F., & Penland, M. (1982). Use of cognitive capacity in reading text: Effects of variations in surface features of text with underlying meaning held constant. *Journal of Educational Psychology, 74,* 51-61.

Fillmore, C. (1968). The case for case. In E. Bach & R. Harms (Eds.), *Universals in linguistic theory.* New York: Holt, Rinehart & Winston.

Frederiksen, C. H. (1977). Semantic processing units in understanding text. In R. O. Freedle (Ed.), *Discourse process: Advances in research and theory.* Norwood, NJ: Ablex.

Freedle, R. O. (1982). *Discourse production and comprehension.* Norwood, NJ: Ablex.

Graesser, A. C. (1981). *Prose comprehension beyond the word.* New York: Springer-Verlag.

Grimes, J. E. (1975). *The thread of discourse.* The Hague: Mouton.

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English.* London: Longman.

Kintsch, W. (1974). *The representation of meaning in memory.* Hillsdale, NJ: Lawrence Erlbaum.

Kintsch, W., & van Dijk, T. A. (1978). Toward a model of text comprehension and production. *Psychological Review, 85,* 363-394.

Kintsch, W. (1982). Text representation. In W. Otto, & S. White, (Eds.), *Reading Expository Material* (pp. 87-107). New York: Academic Press.

Kintsch, W., & Yarbrough, C. J. (1982). Role of rhetorical structure in text comprehension. *Journal of Educational Psychology, 74,* 828-834.

Meyer, B. J. F. (1975). *The organization of prose and its effects on memory.* Amsterdam: North-Holland.

Meyer, B. J. F. (1982). What is remembered from prose: A function passage structure. In R. O. Freedle (Ed.), *Discourse Production and Comprehension* (pp. 307-336). Norwood, NJ: Ablex.

Meyer, B. J. F. (1984). Text dimensions and cognitive processing. In H. Mandl, N. Stein, & T. Trabasso (Eds.), *Learning from texts.* Hillsdale, NJ: Lawrence Erlbaum.

Meyer, B. J. F. (1985). Prose analysis: Purposes, procedures and problems. In B. K. Britton, & J. B. Black (Eds.), *Understanding expository text* (pp. 269-304).

Hillsdale, NJ: Lawrence Erlbaum.

Meyer, B. J. F., Brandt, D. M., & Bluth, G. J. (1980). Use of the top-level structure in text: Key for reading comprehension of ninth-grade students. *Reading Research Quarterly, 16*, 72-103.

Meyer, B. J. F., Haring, M. J., & Brandt D. M. (1980). Comprehension of stories and expository text. *Poetic, 9,* 203-211.

Meyer, B. J. F., & Freedle, R. O. (1984). The effects of different discourse types of recall. *American Educational Research Journal, 21*, 121-143.

Meyer, B. J. F., & Rice, G. E. (1982). The interaction of reader strategies and the organization of text. *Text, 2*, 155-192.

Meyer, B. J. F., & Rice, G. E. (1984). The structure of text. In P. D. Pearson, & M. Kamil (Eds.), *Handbook of research in reading*. New York: Longman, 1984.

Rumelhart, D., & Ortony, A. (1977). The representation of knowledge in memory. In R. C. Anderson, R. Spiro, & W. Montague (Eds.), *Schooling and the acquisition of knowledge.* Hillsdale, NJ: Lawrence Erlbaum.

van Dijk, T. A. (1977). Macrostructures and cognition. In P. Carpenter, & M. Just (Eds.), *Cognitive process in comprehension*. Hillsdale, NJ: Lawrence Erlbaum.

van Dijk, T. A. (1980). *Macrostructures*. The Hague: Mouton.

Weaver, C. A., & Kintsch, W. (1996). Expository text. In R. Barr, M. L. Kamil, & P. D. Pearson (Eds.), *Handbook of reading research, Vol. II* (pp. 231-245). Hillsdale, NJ: Lawrence Erlbaum.