



SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 30 (2011) 690 – 693

Procedia
Social and Behavioral Sciences

WCPCG-2011

The effects of rhetorical patterns or schemata on reading comprehension in expository text of Persian

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Abstract

This study attempts to explore the schemata or rhetorical patterns on reading comprehension of 300 state run university students of psychology and educational fields. The subjects involved were selected through stratified random sampling. This group includes two ways factorial design through random assignment. The variables of this article were investigated in three groups (100 subjects in each group). Each group was asked to recall the text and finish a multiple-choice test. The central instrument included three versions of passage with identical content but different schemata: descriptive (listing) pattern, explaining pattern and analysis pattern. Analysis of recall test indicated that subjects displayed better recall of the text with highly structured schema than the one with loosely controlled schema. The outcomes suggested that rhetorical patterns have a significant effect on written communication.

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Selection and/or peer-review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.

Keywords: schemata; rhetorical pattern; structure; reading comprehension

Schemata (Sharp, 2002) are part of the macrostructure of a text and contain logical organization of the text which the writer has used to represent the intended meaning.

Meyer and Freedle [1979] explored the effects of different schemata or patterns on recall. The 4 types of formal schemata compared were: (1) contrastive; (2) cause and effect; (3) problem-solution; and (4) collection-of-descriptions. Results demonstrated that subjects who were exposed to the formal schemata 1 and 2 recalled more than formal schemata 3 and 4. The results can be explained by schema theory. Based on this theory, recall of information relayed by the first three formal schemata, which offer extra linkage, should be better than that of the descriptive schema. Meyer et al. [1980] conducted another experiment to conform those readers who adopted the strategy of identifying the author's organization structure would be able to recall more information than students who did not. Results were consistent with the predict outcome.

Besides, Sharp (2002) studied effects of four formal patterns include description, cause and effect, listing and problem-solving. The result was consistent with the previous work in that it clearly demonstrates that schemata do affect on reading comprehension.

Cal fee and Chambliss (1987; Chambliss, 1994; Chambliss & Cal fee, 1989, in press) have proposed a text

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taxonomy to be used with texts of any length. The taxonomy has three wellsprings. The first comes from the rhetoric. By surveying college composition books, Calfee and Chambliss (1987) identified several common patterns, which they distinguished by the author's presumed purpose to inform to argue or to explain (Chambliss, 1994).

Information structures are classified as either descriptive or sequential. Description presents characteristics fixed in time. Sequence presents events progressing over time, a motion picture. In the descriptive patterns, the list-great for taking to the grocery store but poor at organizing a text, provide the loosest linkages

An argument presents evidence for a claim. An explanation "fill in the blank" between a young reader's understanding of a phenomenon and scientific explanation by presenting important information metaphors, and analogies in tires, or layers of sub explanations (Chambliss & Calfee, 1998).

A further rhetorical schema which may be used in an expository text and is yet less often utilized in textbooks is analysis.

This schema has been introduced to the text from the educational experience of the author with teaching in classroom. The reason for utilization of this schema in the present study lies in its effectiveness in the creation of an understanding of the issue in learners. With this schema, first the key words or elements are extracted and defined separately and they are then recombined by a short example.

Chambliss & Richardson & Torney-purda & Wakefield (2007) found that reading in form of descriptive tended to enhance student's factual knowledge. Reading Argue and Explain tended to enhance student's understanding of complex relationships. Particularly, explanation not only enhance student's content understanding, but also encourage students to participate in activities.

Also, Zhang (2008) studied the effect of three text patterns (descriptive, comparison and contrast, and problem-solving) on reading comprehension. The results indicate that protocol with highly structured schema problem-solving scoring the highest and the loosely controlled schema-description scoring the lowest. However, these results indicated that it was the most loosely organized text (description) that scored the highest, which was quite different from other investigations of this type. Therefore, one of the questions in study addresses is: will the rhetorical patterns or schemata (represented by three different types) affect the reading comprehension of college students?

Method

Participants:

300 B.M students of presently studying at state run universities of Tehran participated in this experiment. They were students of psychology and educational fields. This entire group completed paper\ pencil comprehension (multiple-choice test) tasks.

Design:

The design was a 4(text coherence) \times 3 (text structure) .this design is two ways factorial. Half of the design was belong to text structure or rhetorical pattern.

Materials:

1-Texts

The first material utilized in this study consisted of three (3) texts of the same subject matter and in about 5-6 pages. The texts were on "material elaborating methods". They were identical texts in that they had similar abstracts, length of paragraphs, the key words repeated in the contexts and some other aspects. The only dimension of difference among the three texts was their rhetorical schemata, that is, the subjects would be described taking use of examples in some text while some other text would take use of descriptive listing to this order and the third one took benefit of analysis pattern (Defining and outlining important parts of the subject and combining those parts taking help from an example) to elaborate the subject. Preparation and evaluation of the texts took about 9 months.

2- Comprehension Questionnaire:

A questionnaire consisting of 40 multiple choice questions (4-6 choices) was devised by Anderson and Krawthwohl in accordance with the common contents of the aforesaid texts considering Bloom's revised table of classified specification. The questions in the aforesaid questionnaire were intended the measure levels of knowledge, understanding, application, and analysis among the subjects. The effectiveness of the questions was assessed after an introductory application of the questionnaire to 180 subjects based on which 11 questions were

excluded. Validity coefficient of the aforesaid questionnaire was 0.82 with correct answers receiving 1(one) point and wrong answers receiving zero (without any negative point considered).

Procedure

Survey packets were stacked in random order for each class. The classroom teacher with me followed the same written instructions, distributing the packets face down and giving readers 49 minutes to read and complete the reading comprehension questionnaire for text. Each participant was instructed to read text and to answer the questions.

Results

As observed in table 1, mean comprehension points of the subjects in respect of the three texts are different from one another. What's more, considering that $F= 5.87$ is significant at 0.05 level, the supposition of effectiveness of rhetorical schemata on comprehension is supported. Moreover, the results under table 2 indicate that with regard to Turkey's follow-up test the text containing explanation schema has the greatest effectiveness in comprehension. While descriptive listing schemata has the least effectiveness. Moreover, there is not a significant difference between descriptive listing schemata and analytic schemata from the viewpoint of effectiveness on reader's comprehension. According to this table the aforesaid differences are significant at 0.05 levels.

Conclusion

These findings indicate that:

- 1- The effectiveness of utilization of concrete examples (Explanation) in development of a there is in conformity with the results reached in the studies made by Chambliss (1995) and Chambliss et al (2007) who concluded that the use of concrete examples would make the issue in hand understandable and familiar to the reader.
- 2- Description (by providing a list of features of the case in discussion) proved less effective on comprehension of readers. This finding is not in much conformity with the conclusions reached in the studies made by Kitsch and Van Djik (1978) Van Djik winch 1983 and Chou have ,Robinowitz &Schieble (1989). they are instead in line with the findings `of Meyer & Freedle 1979. Sharp 2008 and Zang 2008.
- 3- The text in which key parts had been made prominent and in other words the text containing an analysis of key elements with the purpose of development of the major issue, had a fair effectiveness compared the two other texts. It is noteworthy that the structures in question were utilized in this study with a fully different methodology from those applied in foreign works and they were for the first time applied too Persian texts and hence further research is needed to ensure the effectiveness and to support the findings of the present study.

Table 1. Statistical analysis related to scores of reading comprehension of three type rhetorical pattern of texts

Rhetorical patterns	N	<u>M</u>	<u>SD</u>	F
Explanation (example)	100	15.50	4.85	
Description (listing of characteristics)	100	13.36	5.31	5.87 *
Analysis	100	13.92	4.92	

* $p < 0.05$

Table 2. Results of Tokay's follow-up test for studying significance different between structures

Rhetorical patterns	1	2	3
1-Explanation (example)	--	2.14*	1.58*
2-Description (listing of characteristics)	- 2.14*	--	0.56
3-Analysis	- 1.58*	0.56	--

* $p < 0.05$

Acknowledgment

I gratefully acknowledge statistical assistance from Ali Delavar , and helpful comments from Marilyn Chambliss in this manuscript.

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