

The Exploitation of The Rhetorical Structure of The Text to Improve ESP Reading Comprehension

Ana Cristina Lahuerta Martínez
Universidad de Oviedo

The present paper tries to find a way to use the structure texts present as a tool to facilitate and improve EFL (English as a foreign language) students' comprehension of texts written in a foreign language. For this purpose it considers and identifies the reading problems students have related to the use of rhetorical resources and analyses the students' perceptions about the strategies they use while reading and the effectiveness of different strategies. It finally offers some conclusions which can be applied to the EFL classroom.

As language teachers we often come across learners who do not understand either the individual sentences in a particular paragraph of a text, or the point or value which that paragraph conveys in the text as a whole. These learners presumably may not have hypothesized a clear rhetorical scheme for the text at hand, into which the group of sentences could fit as a functional unit of discourse.

Our students are learners of English as a foreign language, who have to read texts in that foreign language, but they are also readers in their native language. We suggest exploiting this situation in the sense that there is knowledge readers already possess as users of their native language, this is knowledge of how sentences may be joined by comparison, causality, etc., or how paragraphs may express two contrasting ideas. What they may not possess is knowledge of the way these relations are manifested in the text, the lexical, syntactic resources the foreign language employs. Our exploitation of text structure as a tool to improve reading comprehension has as an ultimate objective to make readers capable of using that rhetorical information in an adequate way.

When we refer to the rhetorical information in the text we refer to the rhetorical organization a text may present. Thus a text usually have a global structure which may be of the type Problem-Solution, General-Particular, Topic-Restriction-Illustration, etc., which is at the same time made up of relations of different types: comparison, contrast, cause-effect, etc. These relations are signalled in the text by words like *although*, *because*, etc. For instance, let's consider the following extract from the text "Engineers' Digest," (April 1976:16):

It is well known that shot-peening can protect metals against the problem of stress corrosion cracking by producing a compressively stressed layer on the surface. *However, it now appears from the results of recent work carried out in the USA that high intensity peening of 300 series austenitic stainless steel will also prevent intergranular corrosion cracking.*

This extract is part of a text whose overall structure is of the type Problem-Solution (it consists of four elements: a Situation, a Problem, an Evaluation and a Solution). These elements are present in the first paragraph, and the other paragraphs of the text specify each of the four elements. The first paragraph, then, expresses a situation, a problem, a solution and an evaluation. This is expressed by means of an Amplification relation, signalled by *it is well known that*. The problem is signalled by the lexical items *problem* and *stress corrosion cracking*. The solution is signalled by *shot-peening*, the evaluation is given by *protect against*. The situation is that of the making of metals (*metals* is a general reference to *stainless steels*).

This expression of the situation, problem, solution and evaluation includes the semantic relation General Causative (Result-Means) signalled by means of the subordinator *by*. In contrast with that first paragraph that expresses something that is shared by many people and that readers are supposed to know about, the second paragraph exposes a new and recent piece of information. In this way, these two paragraphs are in contrast. This second paragraph refers to the situation (*the making of stainless steels*), the problem (*intergranular corrosion cracking*), the solution (*high-intensity peening*), and the evaluation (*prevents, also*). “*Also*” indicates that a new solution (*high intensity peening*) is also useful for a more important type of problem (*intergranular corrosion cracking*). A Concession-Contraexpectation semantic relation marked by the conjunct *however* and the lexical item *now* relates, then, the first paragraph to the second paragraph.

A reader possesses and an effective reader makes use of two types of knowledge in reading comprehension: systemic knowledge (his knowledge of language) and schematic knowledge (his knowledge of content and formal schemata, i.e., of the content area of a text and of routines of language interaction as expressed in the rhetorical structure of language).

Readers possess schematic knowledge related to the local level of rhetorical organization of discourse structures, that is knowledge of how two sentences may be joined by causality, contrast, etc. (what we will call following Da Moita Lopes (1986), local formal schemata) and knowledge of a global nature, that is, of the global rhetorical organization of the text, i.e., how the different elements of the communicative dynamics of the text make it hang together as a whole (global formal schemata in Da Moita Lopes' (1986) terms). According to this view, the rhetorical information is interpreted from the actual interplay between local and global formal schematic knowledge and systemic knowledge.

This interpretation supposes the selection and integration of information in an intentional way: the reader will focus on a global formal schematic level, on the local formal schematic level, or on the systemic level depending on the reading situation.

We try to make readers capable of interpreting the rhetorical information of texts activating and utilising cues from the different levels exposed above. The interpretation of the rhetorical information of texts has to be located within the interpreter's view of structure exposed above. It implies the procedural capacity of the reader to relate his schematic knowledge and the textual clues, a processing based on the switching between the two.

In the short text we have previously examined, the reader will proceed as follows. In the first paragraph, in the absence of any word or signal that indicates the meaning that joins both sentences, the reader will have to use his formal schematic knowledge to infer a Result-Means relation, giving a Causative value to the paragraph. In the next paragraph, a Contrast relation is activated by the reader using the signal however, and a Causative relation using the signal cause. So, he goes from the signal to the discourse value, from the systemic level to the formal schematic level.

This paper shows the results of an analysis we carried out of the capacity of ESP readers to make use of that rhetorical information, of the textual clues. We first carried out an analysis of the reading of 60 Spanish students of English as a foreign language. The second part of the study is an analysis of the relationship between the subjects' metacognitive conceptualizations about reading in L2 and their reading efficiency in that language. That is, we studied the relation between readers' perception about effective strategies and reading comprehension.

1. Experimenta Study

1.1 Subjects

60 Spanish students of English as a foreign language, all students of the second year of English for Science and Technology at the Technical University School of Industrial Engineering in Gijón.

1.2 Materials and procedures

We chose a text and elaborated questions that referred to the processing of the title and of each paragraph, as well as to the whole text (a cognitive questionnaire). The text was taken from *Engineers' Digest*, April 1976, p.16 (see the text in the Appendix at the end of this paper). The questions were intended to find out if readers used the rhetorical resources present in the text and their knowledge about the rhetorical organization of texts to help their reading comprehension of the text.

The students were first given the title and were asked what they expected after reading the title. Readers were then asked whether they thought the title announced the structure or organization of the text. If they answered that the title did announce a certain structure or organization, we asked them about the kind of organization they saw, and also about how they had detected that organization. With all the paragraphs in the text we asked whether each paragraph showed an organization, part of the global organization announced by the title (the structure the title announced was a Problem-Solution structure. The first and the second paragraphs express the problem and the solution in general terms. The third paragraph is the specification of the problem and the fourth and fifth paragraphs specify the solution), and about the organizing relations in those paragraphs (for example, the expression of the problem and solution in the first paragraph includes a Result-Means relation signalled by means of the subordinator *by*). Everytime we asked the readers about the organization they detected in each paragraph, we also asked them how they had detected that organization. We provided readers with a series of options for them to select (Background knowledge; signals; intuition; others). This indicated to us if

the readers had processed the text using their their knowledge of the rhetorical organization, and the signals, the markers of the organization in the text.

As we have said, We also analysed the relationship between the subjects' metacognitive conceptualizations about reading in L2 and their reading efficiency in that language. That is, we studied the relation between readers' perception about effective strategies and reading comprehension. We elaborated a metacognitive questionnaire. We wanted to approach the readers' perceptions about the strategies they used and about the effectiveness of different strategies, and see the relation between readers' perceptions and reading comprehension. We wanted to know if the readers were aware of those strategies, considered them effective, and if this had an effect on their reading performance.

The structure of this questionnaire was the following:

It contained fifteen statements about what subjects focused on in order to read more effectively and about reading behaviours of good readers, to tap their perceptions of effective/efficient strategies.

Within this category individual items focused on various types of reading strategies: 1) phonetic, pronunciation, or sound-letter aspects of decoding; 2) word-level aspects of meaning; 3) sentence, syntactic decoding; 4) details of text content; 5) global aspects of textual meaning, or text gist; 6) background knowledge; and 7) textual organization. All of these strategies had been suggested in the literature on reading strategies related to comprehension.

2. Results of the cognitive questionnaire

We analysed the cognitive questionnaires of the 60 readers and found that twenty readers could be classified as what we called strategic readers. These readers interpreted the structural features and processed the text interactively: they used both rhetorical knowledge and the signals in the text, their processing was both concept-driven, with information being passed from the top downwards (top-down processing) and data-driven (bottom-up processing), depending on the resources at their disposal. Twelve readers couldn't be classified as strategic readers. They did not make a purposeful selection of the resources at their disposal. Twenty-eight readers could be considered decoders who did not relate

the clues in the text to higher structures, they just saw the signals as such, not as a device to activate a knowledge structure. Those readers who were considered strategic understood the text completely. Those subjects who were not strategic readers showed many difficulties with the comprehension of the text. Decoders did not understand the text.

Thus, we also saw a relation between use of structure and reading comprehension. Structure facilitates reading comprehension when the reader identifies or recognizes the organization the text presents and interprets those structural resources at his disposal. This characterizes the reader as an autonomous reader who is able to use his resources effectively.

This analysis served us to identify the reading problems these students have in reading related to the use of structure. These refer in general to: lack of knowledge of ways of organizing a text, failure to exploit this knowledge to make predictions about what is going to come next, and to make decisions about how sections of the text relate to the overall development of the topic, lack of familiarity with expressions used as structure markers and problems with recognizing the various types of structure marker signals. We observe in general failure to use all the rhetorical resources available for comprehension.

3. Results of the metacognitive questionnaire

We analysed the scores of the reading comprehension tests of the three groups of readers, and analysed statistically the relation between these two variables, ie, perception of what are effective strategies and reading comprehension. The relation was significant in the case of the three types of readers we had considered:

perception/reading comprehension
Strategic readers: Chi-square=3 p<0.05
Non strategic readers: Chi-square=2.55 p<0.05
Decoders: Chi-square= 0.5 p<0.05

Table 1

The relation was also significant when we considered all readers together:

perception/reading comprehension
All readers together: Chi-square= 3.9 p<0.05

Table 2

We found that those readers who consider the global strategies based on the use of content knowledge (knowledge of the area of content of the text) and knowledge about the rhetorical resources of the text as effective strategies comprehended the text better.

What we intended was to find out what readers are aware of in terms of reading strategies. We consider the study as a first step in the important task of enhancing readers' awareness. Several researchers have advocated metacognitive training, especially in reading, to promote effective comprehension (e.g. Gavelek and Raphael 1985; Carrell, Pharis and Liberto 1989; Carrell 1991). We think that the main aim of metacognitive awareness must be to get the students to understand the active role they can play as readers, employing resources to enhance understanding.

4. Conclusion

To sum up, we think that several points have to be taken into account for an effective exploitation of structure to improve reading comprehension:

1. In order to exploit the rhetorical organization of texts as a resource for readers to improve their comprehension, this exploitation must be based on making readers aware of and capable of interpreting the rhetorical features or rhetorical information of texts. Training must therefore be oriented to the development of such procedural capacity to integrate cues from different levels to arrive at an interpretation.
2. Although the metacognitive training research is still small in second language reading, it nonetheless seems clear that effective second language reading pedagogy must include not only training in the use of strategies but

information about the significance and outcome of these strategies and their utility (i.e., awareness training). Adding instruction in awareness or knowledge about a strategy's evaluation, rationale, and utility should greatly increase the positive outcomes of instruction. Pedagogy should not be limited to repeated but unguided and uninformed exposure to a task.

WORKS CITED

- Carrell, P.L.** 1991. "Second Language Reading: Reading Ability or Language Proficiency?" *Applied Linguistics*, 12, 2: 159-173.
- Carrell, P.L. Pharis, B.G. and Liberto, J.C.** 1989. "Metacognitive Strategy Training for ESL Reading." *TESOL Quaterly*, 23, 4: 647-678.
- Da Moita Lopes, L.P.** 1986. *Discourse Analysis and Syllabus Design: An Approach to the Teaching of Reading*. Unpublished Doctoral Dissertation. University of London, Institute of Education Department of English for Speakers of Other Languages.
- Gavelek, J.R. and Raphael, T.E.** 1985. "Metacognition, Instruction, and The Role of Questioning Activities" in Forrest-Pressley, D.L., Mackinnon, G.E. and Waller, T.G. eds. *Metacognition, Cognition and Human Performance. Instructional Practices*. Orlando: Academic.

Appendix

Peening process, the solution to prevent intergranular corrosion of stainless steel.

It is well known that shot-peening can protect metals against the problem of stress corrosion cracking by producing a compressively stressed layer on the surface.

However, it now appears from the results of recent work carried out in the USA that high intensity peening of 300 series austenitic stainless steel will also prevent intergranular corrosion cracking.

Apparently, when these steels are sensitized by heating them to between 950 and 1500°F chromium carbides precipitate along continuous grain boundaries extending from deep in the metal to the surface, thereby depleting

chromium carbide in layers next to the grain boundaries. As a result, intergranular corrosion starts in the depleted surface areas, causing failure of peeping, pressure vessels, and other equipment containing corrosive fluids.

The idea of the high-intensity peening process is to break up the grain boundaries at the surfaces. Closely controlled repetitive cold working of the surfaces will be used.

It is true that sensitizing temperatures will still cause carbides to form along grain boundaries between the surface of fillets or other workpiece sections, however, carbides at the surface layer will be randomly dispersed, and corrosive environments will not penetrate the surface.