

# THE PROBLEM-SOLUTION PATTERN: A TOOL FOR THE TEACHING OF WRITING ?

Ana Díaz Galán and M<sup>a</sup> del Carmen Fumero Pérez  
Universidad de La Laguna

Over the past two decades researchers have increasingly become aware of the fact that language teaching can benefit from the field of discourse analysis and pragmatics. This paper analyzes the applicability of the so called *problem-solution pattern* to the teaching of writing. An experiment was conducted in order to test M. Hoey's (2001) belief that the pattern can serve as a ready-made template to help the learner-writer in their task. The results point at the fact that providing students with vocabulary related to the topic triggers the problem-solution pattern, which reveals itself as culturally known for our students, without the need of explaining it explicitly.

## 1. Introduction

Various authors (Cook 1989; McCarthy 1991; Hatch 1992; Celce-Murcia y Olshtain 2000) have demonstrated that discourse analysis can provide interesting insights in the field of language teaching. In this line, the present paper discusses the pedagogical suggestions made by Michael Hoey in "Textual Interaction" (2001) about the need to teach certain aspects of textual organization well known in the field of discourse analysis, such as the so-called *problem-solution pattern*.

According to the author the problem-solution pattern "arises as a result of the writer answering a predictable series of questions which reflect the relationship between the sentences of the text. The order in which these questions are answered is, however, not fixed" (Hoey 2001: 140). Such questions would be of the type: "what problem arose for you?", "what did you do about this?", which would be the key question, and "what was the result?" (2001:123). Another of the main characteristics of this pattern is that it is lexically signalled.

This paper will try to prove if, as Hoey proposes, it is relevant to provide students with certain previous knowledge of the "popular patterns of text organization" in order to improve their writing, or if, to the contrary, due to the fact that they are well known, or "popular", it is not necessary to emphasize the structure of the patterns but simply the vocabulary that signals them. What follows is an account of the development and the results of an experiment designed to investigate this issue carried out at the University of La Laguna with a group of 45 first year Philology students.

## 2. The *Problem-Solution Pattern*

In Hoey's words "Text can be defined as the visible evidence of a reasonably self-contained purposeful interaction between one or more writers and one or more readers" (2001:11). This interaction can be seen as a series of hypothetical questions the reader makes to the writer and that the latter answers, or should answer, both locally (at sentence level) and globally (at discourse level) and that may be prefixed and, therefore, known both to reader and writer. Although the most common description of these culturally pre-established sequences are Rumelhart's *schemata* and *scripts* (1975, etc.), Hoey, however, prefers to explain this phenomenon by means of what he calls "culturally popular patterns of organization" (2001:122).

These patterns are mainly characterized by an organization (not a structure) in which certain elements are more frequent than others; by the non existence of inadequate combinations (again in contrast with structures); by the fact that they are culture-bound; and, finally, by their popularity, this is, the great frequency with which some of them occur.

One of the most common is the problem-solution pattern, already proposed by the author in 1983, which is characterized by the following elements (2001:123 and ff.): (1) an optional previous Situation, which provides a context for the pattern (2) the Problem or "aspect of a situation requiring a response" (2001:124), (3) the Response to the problem and (4) a Positive Result or Evaluation. All these features can be seen in Hoey's fabricated example:

- (1) (1) I was once a teacher of English Language. (2) One day some students came to me unable to write their names. (3) I taught them text analysis. (4) Now they all write novels. (2001:123)

The outline can be modified when the response given to the problem is felt to be inappropriate or not valid ("Negative Result or Evaluation, stage 4) consider, for instance, the alternative (4) "This had little effect" (2001:130) for the previous text. In such cases, the pattern is recycled until finding a response that provokes either a positive evaluation or a negative one with no possibility of retrieval (i.e. the teacher was dismissed). The figure below represents the problem-solution pattern and its possible alternatives (Hoey 2001:133):

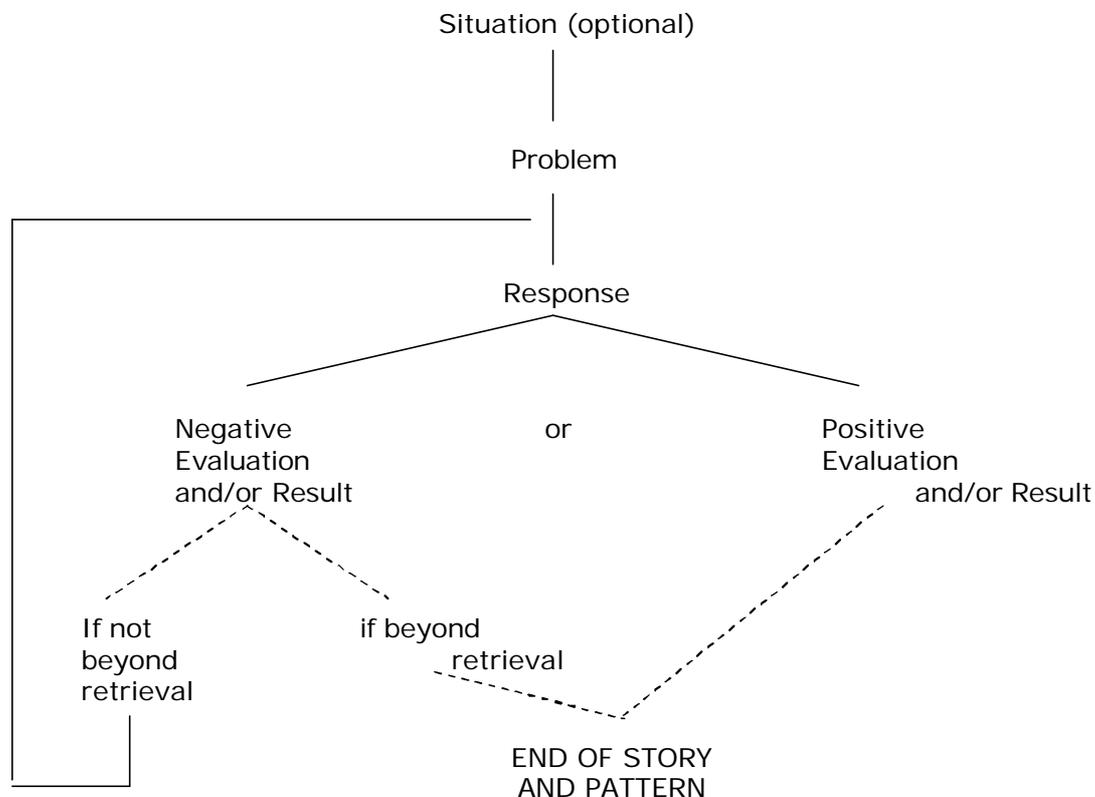


Figure 1. Representation of range of Problem-Solution patterns available

An intermediate stage, which does not appear in the previous diagram, may occur between the Problem and Response, the "Plan", which "defines what might count as an adequate Response or makes a suggestion as to what response to adopt" (2001:127).

Textual patterns have been described with the purpose of accounting objectively for the way clauses or groups of clauses relate to each other in the discourse, "in other words, the real nature of the pattern is the sense of order perceived by a reader" (1986:190). Therefore, the problem-solution pattern is only one of the different possibilities of text organization Hoey (2001:145-169) distinguishes. The various types (*Goal achievement, Opportunity-Taking, Desire Arousal-fulfillment or Gap in Knowledge-Filling*) can all be summarized in one abstract pattern represented as *SPRE*. Where *S* stands for the situation, *P* for the problem, goal, need of knowledge, etc (depending on the case), *R* for the response, the way of achieving a goal, etc. and, finally, *E* represents a positive evaluation (the pattern ends) or a negative evaluation (the pattern is recycled).

## 2.1. Lexical signalling

Hoey emphasizes the importance of the lexical signals and specific vocabulary provided by the author for the reader's recognition of the patterns. The frequency of these signals varies across genres and depends on the presupposed knowledge of the reader.

For Hoey signals can be *evaluative* (eg. "terrible"), and *non-evaluative* (eg. "poverty", "disease") they may have a clear pattern-referring function (eg. "solution" or "problem") and, following Martin's (1992) terminology, they can be *inscribed*, this is, explicitly encoded or *evoked*, implicitly encoded. According to Hoey:

The problem-solution pattern is characteristically lexically signalled either by means of inscribed signals (eg. *solution*) or inscribed evaluations functioning as signals (eg. *unfortunately*) or by means of evoking signals (eg. *had no money*). One or more of these signals serves as trigger for the pattern, in that it makes the pattern visible to the reader. (2001:140)

Among the most common signals of the pattern Hoey mentions the expression "do something about x" (2001:125), which is typical of children stories:

- (2) "Did you get any sleep last night, Ted?"  
"Not a wink, Fred"  
"My bed is too little!"  
"My bed is too big!"  
"What can be do about it, Ted?"  
"I don't know, Fred"  
" I know what to do!" said the bird "just switch rooms. Ted should sleep upstairs and Fred should sleep downstairs!" (Hoey, 2001: 125)

## 3. Pedagogical implications

One of Hoey's tenets is the practical application of the textual systems he theoretically describes to different fields such as translation, computer software, dictionary making and, specially, language teaching. In this line, he emphasizes the relevance of the

SPRE patterns for the teaching of English as a foreign language, paying special attention to reading and writing.

Writing must be considered from an interactive point of view, since the ultimate aim of any text is to be read and comprehended by a reader. Celce-Murcia and Ohlstein (2000:143), citing Bereiter and Scardamalia (1987), speak of the "reader-based" approach to writing which gives great importance to the relation between reading and writing and considers that the aim of the latter is to produce a comprehensible text:

In such a view the writer has the responsibility of creating a text which accommodates to the potential reader(s). The writer needs to use language, content, and conventions of writing in a way that will enable the reader to extract the intended meaning effectively, even though the act of reading will be carried out at a time and place removed from and independent of the act of writing (Celce-Murcia and Ohlstein, 2000:143)

Hoey can be said to share this interactive approach in that he considers that, from the point of view of writing, the different patterns may facilitate the learner the task of ordering the text which results in making it easier to read. Teaching the elements of the patterns can be beneficial to the learner since, as he says, "The various SPRE patterns serve as ready-made templates and, while it is emphatically not the case that all good writing has to conform to them, it can benefit a learner writer to have a pattern to stick to" (2001:167-8). In spite of the fact that knowledge of the patterns can be considered culturally bound to the Western World and, to that extent, familiar enough for the learner, Hoey insists that their teaching is not superfluous even if their sole utility is to help students organize their thoughts.

In Hoey's view the signalling vocabulary plays an essential role in the teaching of the patterns. It is important to make learners aware of the fact that, as readers, they should be able to identify the signals that mark the patterns and, therefore, as writers they must provide these signals. In this respect, they must learn that both *undersignalling* and *heavy-signalling* are regarded as cases of *mis-signalling*, preventing the reader from identifying the pattern clearly.

## **4. The study**

### **4.1. Objective**

Following Hoey's suggestions on the pedagogical applications of the SPRE patterns, our objective was to verify to what point a previous awareness of the problem solution pattern and / or of the signalling vocabulary may benefit students in the structuring of their written work.

### **4.2. Method**

A total of 45 students of English at the same academic level, first year of English Philology at the University of La Laguna, volunteered to participate in our research. The teacher, the same for all groups, was responsible for the instructional process and data collection.

Students were divided into three groups of 15 students each and asked to write a short composition on a pre-established topic which, hypothetically, should trigger the

problem-solution pattern: *an embarrassing situation and how it was solved*, with no other clue in relation to the objective of our experiment.

The purpose of separating students was to establish a comparative analysis across the three groups, since all the students were asked for the same piece of writing, but each group differed with respect to the previous knowledge they were provided. The procedure was the following:

- Group 1 had no previous information related to the topic, the vocabulary or the pattern.
- Group 2 was given a list of relevant vocabulary they could optionally use in their written task. In this list, words were separated into three different groups which we called "the problem", "the solution" and "linking and opinion words". Although students were not explicitly informed, in the elaboration of the list, following Hoey's suggestion, we included the signalling vocabulary which we considered could trigger the problem-solution pattern (See Appendix I).
- Group 3 was provided not only with the same vocabulary list, but also with an explicit description and example of the problem-solution pattern. (See Appendix II).

The initial hypotheses concerning the contrast among the groups were the following:

- Group 1. If students show the pattern in their compositions without any help it implies the cultural nature of this type of text organization and, therefore, that its teaching would be redundant.
- Group 2. The assumption concerning this group is that the teaching of the signalling vocabulary would facilitate the text organization in comparison with the previous one.
- Group 3. According to the pedagogical implications of the teaching of lexis and pattern templates the compositions of this group should all, in principle, show the pattern.

Since specific vocabulary plays a fundamental role in the pattern, a final hypothesis concerning its use was formulated:

- Irrespective of the group to which they belong, the use of pattern-related vocabulary will be more significant in the essays which show the pattern.

## **5. Results and discussion**

Once the students had completed their task, essays were analysed searching for: a) the problem-solution organization, as described, and b) the presence of signalling vocabulary whose relevance was quantitatively measured (3 or more elements). The tables below show the results with respect to each group:

Group 1			
	With Pattern 6 (40%)	Without Pattern 9 (60%)	Total 15 (100%)
With vocabulary	4 (66.6%)	3 (33.3%)	7 (46.6%)
Without vocabulary	2 (33.3%)	6 (66.6%)	8 (53.3%)
Total	6 (100%)	9 (100%)	15 (100%)

Table 1. Presence of pattern and signalling vocabulary in group 1

Group 2			
	With Pattern 11 (73.3%)	Without Pattern 4 (26.6%)	Total 15 (100%)
With vocabulary	10 (90.9%)	0 (0%)	10 (66.6%)
Without vocabulary	1 (9%)	4 (100%)	5 (33.3%)
Total	11 (100%)	4 (100%)	15 (100%)

Table 2. Presence of pattern and signalling vocabulary in group 2

Group 3			
	With Pattern 10 (66.6%)	Without Pattern 5 (33.3%)	Total 15 (100%)
With vocabulary	8 (80%)	1 (20%)	9 (60%)
Without vocabulary	2 (20%)	4 (80%)	6 (40%)
Total	10 (100%)	5 (100%)	15 (100%)

Table 3. Presence of pattern and signalling vocabulary in group 3

The most significant differences in the presence of the pattern shown in these tables are related to the previous information provided to the students. Thus, as a whole, the results of groups 2 and 3 are significantly superior to those of group 1.

Contrary to what would be expected, the differences between groups 2 and 3 are too small to be significant, despite the difference in the amount of background information the subjects could resort to.

As for the presence of signalling vocabulary, the percentages in tables 4 and 5 below show its direct relation to the appearance of the pattern. This relation is most obvious in group 2, where only one of the 11 compositions which follow the pattern does not present a significant number of signalling words. Although not so outstanding, in group 3 the importance of vocabulary for the text organization is also clear, since 80% of the subjects made use of it. It is also worth mentioning that even in group 1, where no information about vocabulary was provided, most of the essays organized around the pattern use a vocabulary which has a signalling function.

	Group 1	Group 2	Group 3
With Pattern	6 (40%)	11 (73.3%)	10 (66.6%)
With Vocabulary	4 (66.6%)	10 (90.9%)	8 (80%)

Table 4. Presence of pattern and vocabulary in the three groups.

	Group 1	Group 2	Group 3
Without Pattern	9 (60%)	4 (26.6%)	4 (26.6%)
With Vocabulary	3 (33.3%)	0 (0%)	1 (20%)

Table 5. Absence of pattern and presence of vocabulary in the three groups

If we go back to our initial hypotheses, with respect to group 1, we must conclude that the teaching of the patterns is not redundant, since the significantly lower percentage of compositions that show the problem solution pattern in this group seems to be related to the lack of previous information. This points at the fact that providing students with background information may influence their writing skills positively.

Comparatively, in general, group 2 shows the best results both in the use of pattern and vocabulary. More specifically, the great difference in the number of students that use the pattern in comparison to group 1 confirms our hypothesis that the teaching of signalling vocabulary facilitates the text organization.

Contrary to our expectations, not only did group 3 not have a 100% of pattern presence but, what is more, the percentages are in general (pattern and vocabulary) lower than those of group 2. These unexpected results deny the validity of hypothesis 3 which predicted that the total of compositions would show the pattern, on the basis of the explicit teaching of its organization and vocabulary, while, at the same time, they confirm the relevance of the results obtained in group 2.

In sum, these findings corroborate the last of our hypotheses, which predicted the relevance of signalling vocabulary for the existence of the pattern. Consequently, they also confirm the importance of lexis in the teaching of writing.

## 6. Conclusions

The aim of this paper was to test whether the explicit teaching of the patterns described by M. Hoey and of the vocabulary that signals them could be of any help for the organization of student's writing. The analysis carried out on the 45 compositions which conform our data partially confirm the author's suggestions with respect to the pedagogical applications of the patterns he describes.

Our results reveal that it is more important to provide students with the signalling vocabulary related to the pattern than to teach the pattern itself, for such vocabulary seems to trigger the problem-solution pattern, whose stages reveal themselves as culturally known for our students, without the need of explaining them explicitly, in contrast with M. Hoey's opinion.

Despite the fact that our study is subject to certain limitations, such as the number of subjects, and that further research related to the other types of patterns is still needed, we believe our findings are significant in that they show the difference between students who have access to the signalling vocabulary and those who do not. This divergence emphasizes the importance of such vocabulary in the teaching of writing.

## References

- Bereiter, C. and M. Scardamalia (1987) *The Psychology of Written Composition*. Hillsdale: Erlbaum.
- Celce-Murcia, M. and E. Olshtain (2000) *Discourse and Context in Language Teaching*. Cambridge: Cambridge U.P.
- Cook, G. (1989) *Discourse*. Oxford: Oxford U.P.
- Hatch, E. (1992) *Discourse and Language Education*. New York: Cambridge U.P.
- Hoey, M. (1983) *On the Surface of Discourse*. London: George Allen and Unwin.
- (1986) "Overlapping Patterns of Discourse Organization and their Implication for a Clause Relational Analysis of Problem-Solution Texts". *Studying Writing. Linguistic Approaches*. Eds. C. R. Cooper and S. Greenbaum. London: Sage. 187-214.
- (1993) "A Common Signal in Discourse: How the Word *Reason* is Used in Texts". *Techniques of Description: Spoken and Written Discourse*. Eds. J. Sinclair, M. Hoey and G. Fox. London: Routledge. 67-82.
- (1991) *Patterns of Lexis in Text*. Oxford: Oxford U.P.
- (2001) *Textual Interaction: An Introduction to Written Discourse Analysis*. London: Routledge.
- Martin, J.R. (1992) *English Text: System and Structure*. Amsterdam: John Benjamins.
- McCarthy, M. (1991) *Discourse Analysis for Language Teachers*. Cambridge: Cambridge U.P.
- Rumelhart, D. (1975) "Notes on a Schema for Stories". *Representation and Understanding: Studies in cognitive Science*. Eds. D.G. Bobrow and A. Collins. New York: Academic Press. 211-36

## **Appendix I**

### **PROBLEM**

#### **Adjectives**

Ashamed, anxious, bold, cheeky, concerned, disgraceful, distressed, disturbed, embarrassed, embarrassing, funny, humiliated, impudent, insolent, mistaken, nervous, overwhelmed, rude, sad, shameless, shy, surprised, worried.

#### **Nouns**

Anxiety, boldness, cheek, concern, disgrace, disrespect, distress, embarrassment, humiliation, insolence, mistake, misunderstanding, nerve, rudeness, sadness, shame, situation, shyness, surprise, worry.

#### **Verbs**

To be ashamed, to become anxious, to bother, to blush, to be concerned, to confuse, to disrespect, to distress, to disturb, to embarrass, to forget to humiliate, to mistake, to misunderstand, to show up, to trouble, to undergo, to upset, to worry.

### **SOLUTION**

#### **Adjectives**

Cheerful, delighted, grateful, (un)happy, miserable, (un)pleased, relieved, (un)satisfied, (un)solved

#### **Nouns**

Attitude, conclusion, consequence, decision, excuse, delight, happiness, idea, misery, reaction, relief, result, satisfaction, solution.

#### **Verbs**

To accept, to apologize, to become aware, to cheer up, to conclude, to deal with, to decide, to do about, to excuse, to help, to make up one's mind, to manage, to meditate, to please, to react, to realize, to reflect, to satisfy, to solve, to think out, to work out, to work things out.

### **LINKING WORDS**

After, afterwards, consequently, eventually, finally, however, in the end, so, suddenly, then, therefore, thus

### **WORDS THAT EXPRESS OPINION**

(un)expectedly, (un)fortunately, (un)luckily, (un)surprisingly

## **Appendix II**

### **THE PROBLEM-SOLUTION PATTERN**

- 1- Situation (optional)
- 2- Aspect of situation requiring a response (i.e. problem)
- 3- Response
- 4a. Positive evaluation and / or result: end of story and pattern

OR

4b. Negative evaluation and or result

5a. The pattern is recycled and goes back to 3 until positive solution found.

5b. The negative evaluation is so strong that it cannot be recycled, end of story and pattern.

eg. 1- I was a teacher of English language  
2- One year some of my students were illiterate  
3- I taught them text analysis  
4a. Now they all write novels

eg. 1- I was a teacher of English language  
2- One day some students came up to me unable to write their names  
3- I taught them text analysis  
4b. This however had little effect (END OF PATTERN OR BACK TO THREE)  
5a. Then I taught them English grammar  
4a. Now they all write novels