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Abstract

The present study examines a corpus of ninety newspaper articles; with the goal of analyzing Michael Hoey's problem solution pattern. Also native speakers of English and native speakers of Persian were chosen. According to Hoey, the process of reading and writing in any discourse are based on culturally popular pattern of organization between the writers and the readers. So this study aimed to investigate whether Hoey’s pattern makes any significant difference in comprehension of the texts or not. After the detailed analysis of the Hoey's pattern, chi-square tests were carried out to clarify the probable differences. The analysis revealed how PS differed in understanding of these two groups.

Key words: discourse analysis, text organization, Problem Solution Pattern.

Introduction

Much has been written over the past three decades regarding the use of textual patterning (van Dijk, 1977; Hoey, 1983, 1994 & McCarthy, 1991). Texts are the noticeable traces of the process of mediating a message. In conversation, these traces are disjointed and vanish. They can be taped but they do not need to be, and are not recorded. Consequently, texts are produced by participants in spoken communication without making a recording, and their negotiation is regulated on-line (Widdowson, 2007).

Written text, however, is recorded by the writer and is interpreted as a separate process. It is supposed that the 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, in which the writer(s) control the interaction and produce most of (characteristically all) the language.

According to Hoey's approach writer's objective is to have an effect on their readers using their text. So there is an interaction between them. Interaction is necessarily personal and each person's experience of it will be different from everyone else's.

When writers compose their texts, they draw upon models that have become normal within their culture; when readers process these texts, they do the same. It is this property of text that makes the study of reading and writing so interesting and so complicated.

Hoey's model, problem solution seems to be a successful attempt to make easy such complicated phenomena which is called text production and reception.

The first aim of the present paper is to analyze the use of problem solution pattern in English and Persian newspaper articles, focusing on the categories used for problem solution (PS) approach of Michael Hoey. This study includes following research questions:

1. Is there any significant difference between Iranians and native speakers of English in their use of problem solution pattern employed by Iranians (non-native speakers) and native speakers in their newspaper articles written in English?
2. Is there any significant difference between Iranians and native speakers of English in their use of problem solution pattern employed by Iranians in their newspaper articles written in English and in Persian respectively?

**Background and related literature**

It should be mentioned that there are certain aspects of all discourse studies, such as stylistics, conversational analysis, discourse analysis, text linguistics, contrastive rhetoric (CR) and critical linguistics which also study the traits of speech and writing, among other things, have their roots in rhetoric and fall under this old branch of human knowledge. The text structure or world structure theory operates with factors relating to text users rather than to the text as an isolated artifact and with presentational devices drawn from formal logic. Their project is extremely complex. In this pattern, the reference of the text to objects or situations in the world is handled by a world semantics component at least some correspondence is postulated between text structure and world structure (De Beaugrande and Dressler, 1981). They reasoned that the generating of a text must begin with the main idea which gradually evolves in to the detailed meanings that enter individual sentence length stretches.

One major school of thought with regard to genre is that associated with systematic-functional linguistics and in particular with Australian linguists working in this tradition. A pioneer among this group was Roqaiye Hasan (with Halliday, 1985), though she has voiced some concern about recent developments (Hasan, 1995). Norman Fairclough (1989, 1992a) is the linguist who, with Gunther Kress (1991), can be credited with giving wide currency to the discourse perspective in critical linguistic analysis. Fairclough's check list of analytical questions to ask of a text is exemplary and could usefully be put in the hands of every trainee analyst, but the analysis themselves do not always consider alternative positions (Fairclough, 1989).

Accordingly another important branch of text linguistics is that devoted to comparing and contrasting the different strategies for organizing texts employ. Aghagolzadeh is an innovator who studies the problem solution approach of M. Hoey (2001) in Iran. This pattern has been commonly identified as important during among the several linguistic scholars although they did not clearly label it (Hoey, 1994).

Aghagolzadeh (2004) refers to different functional approaches include Halliday and Hasan’s approach, van Dijk’s process-oriented approach, the procedural approach of de Beaugrande and Dressler, and the problem solution approach of Michael Hoey. He indicates that the problem solution method is a comprehensive and easy method for producing narrative and non-narrative texts.

Yarmohammadi (2004) mentions, meaning comes from culture, and there is a mutual and indirect relationship between language and culture. We can not create an effective dialogue with people in other languages without having knowledge of the organization used in those languages.

Keiko Muto-Humphery (2001) in his article “The Use of Textual Patterns in Reading” discusses learning textual patterns was concluded to be an effective method for L2 learners in improving their reading ability. This tacit knowledge can be expected to make it easier for L2 learners to understand the text through the use of textual patterns, namely: ‘Problem-solution,’ ‘General-specific’, and ‘Claim-counter-claim’ patterns.


Yin Ze-sheng (2007) in “Development of reading and writing abilities by teaching textual patterns” discusses that it is increasingly important for students to develop reading and writing abilities. Teachers
should focus on the teaching of English textual patterns, which plays an important part in sending writers’ messages. The patterns used in the text help readers unfold the writer’s message positively and actively. Some instructional activities are discussed to develop students’ reading and writing abilities, including raising awareness of textual patterns, focusing on signaling factors, reformulating and making a frame or a diagram.

Maggie Charles (2011) in “Adverbials of result: Phraseology and functions in the Problem–Solution pattern” mentions differences in frequencies and phraseology with reference to genre, discipline, context and the function performed in the text. In this study she then takes a discourse approach, examining how the co-occurrence of an adverbial of result, thus, and an adverbial of contrast, however, is used to signal the Problem–Solution pattern. She found that both adverbials can contribute to signaling Problem, Response and Evaluation moves, while thus is also used to summarize the Situation move. This suggests that there is not a direct one-to-one correspondence between the semantic group of the adverbial (Result or Contrast) and the discourse move it signals.

Method

Theoretical framework
Theoretically, concepts such as schemata, scripts and culturally popular patterns of organization are the fundamental principles in the Problem Solution (PS) pattern approach. One of the first linguists who considered the schemata and scripts were Rumelhart, then (shank and Abelson, 1977) followed him. They talk in terms of schemata and scripts in the reader's (and writer's) mind. A schema is a statistic representation of knowledge, whereas a script is a narrative representation of knowledge. A schemata represents the (non-narrative) connections between facts; a script represents the sequence in which likely events will occur (Hoey, 2001). Revealing these notions such as schema and script are for a general understanding of the writing and reading processes, they are of limited value in text analysis or in the teaching of reading or writing.

This is because there appears to be no practical limit to the number of schema or scripts we can hold and the exact content and boundaries of each schema or script are open to real question. Furthermore, even if these problems were solvable in principle, we would still never in practice be able to list all the schema/scripts that a reader develops in his or her life or that a writer is capable of making use of (ibid, 2001).

In short, schemata and scripts are not practicable analytical tools. What we need is something that allows us to generalize about these schemata/scripts without losing the insight that readers cooperate with writers in making a common meaning (Aghagolzadeh, 2004).

Hoey's approach is an attempt to solve this problem by presenting popular patterns of organization or the problem solution pattern. The answer to such a problem, in part, lies in the fact that readers seem to bring two kinds of knowledge to bear on the text they read: the specific knowledge described by schemata and scripts and a more generalized set of expectations that are shared across a range of texts. The basic concepts and units in problem solution pattern are:

(a) Situation: which consists of facts that the writer wishes to say about something or somebody? In fact it is a background: what time, place, people, etc. are going to be involved in this text (Salki, 1997).
(b) Problem: which normally requires response? What is the text principally about? What need, dilemma, puzzle, and obstacle does this text address?
(c) Solution: what is the solution to the problem? (How are or were the needs met, the dilemma resolved, the puzzle solved, the obstacle over come, or the lack remedied?).
(d) Evaluation: there might be (an) evaluation(s), positive/negative, that purpose is to find out if the proposed solution actually overcomes the problem. (How should this situation be evaluated? How good
is it at solving the problem? If there is more than one solution, which is the best? (Hoey, 2001 & Salkie, 1997).

Hoey points out that there are actually several types of recycling. (Hoey, 2001) One possibility is that each negative evaluation redefines the nature of the problem; another is that the problem remains unchanged but the response changes. In general, what distinguishes the two kinds of negative evaluation/result is as follows:

If the negative result is not beyond retrieval, the problem follows the recycling process.
If the negative result is beyond retrieval, it functions exactly like a positive evaluation for the purposes of pattern completion (shown in figure 2.).

Participants
The corpus of the present study consisted of 90 articles written by auditors in some newspapers (English and Iranian). Due to the Michael Hoey's pattern, the corpus was restricted to a one-month between 1st January and 1st February.

**Instruments**
In order to compare and analyzed probable differences between discoursal characteristics of PS pattern and non-PS pattern, it was necessary to choose a model. As mention above, in this research, M. Hoey's problem solution pattern (2001) was used.

**Procedure**
Ninety newspaper articles and some native speakers of English; and non-native speakers (Iranian) were chosen.
To begin, the texts were carefully read word by word in order to identify and locate the situation, problem, response, evaluation and result. Moreover, to identify and locate the possible differences between Hoey's pattern and non pattern, the texts were compared and contrasted. To compare the result and measuring the differences, the statistical procedure of the t-test was used to determine the differences between the groups. Since there were two groups in the study, the statistical design of the study was independent t-test.

**Data analysis**
Throughout the study two t-tests were administered. According to Hatch and Farhady (1981) if the t-observed is higher than t-critical, our hypothesis is approved.

<table>
<thead>
<tr>
<th>Groups*</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>df</th>
<th>t-obs</th>
<th>t- critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>12.38</td>
<td>2.3</td>
<td>45</td>
<td>24</td>
<td>1.2</td>
<td>1.96</td>
</tr>
<tr>
<td>Group 2</td>
<td>12.36</td>
<td>.7</td>
<td>45</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>90</td>
<td>48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P< 0.05

*. The two groups show native and non-native readers who are the readers of non-PS pattern texts

**Table 1: t-test for both groups' comprehension on the non-PS pattern texts**
As the above results indicate, t-observed is much smaller than the t-critical at the p<0.05 level of significance. Accordingly, it can be concluded that the difference between two groups is not meaningful and both groups are nearly homogeneous. The means for both groups are illustrated in Figure 1.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>df</th>
<th>t-obs</th>
<th>t- critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>12.16</td>
<td>3</td>
<td>45</td>
<td>24</td>
<td>.7</td>
<td>1.96</td>
</tr>
<tr>
<td>Group 2</td>
<td>12.13</td>
<td>4.15</td>
<td>45</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>90</td>
<td>48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P<0.05

**Table 2: t-test for both groups' comprehension of PS pattern texts**
After that, both groups were given similar PS pattern texts. As table 2 represents, t-observed was reported as 1.9. The means for both groups are illustrated in figure 1.
Accordingly, it can be concluded that the difference between two groups is not meaningful and both groups are nearly homogeneous.
Figure 1: Comparison of groups' comprehension

<table>
<thead>
<tr>
<th>Groups*</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>df</th>
<th>t-obs</th>
<th>t- critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>19.48</td>
<td>.16</td>
<td>45</td>
<td>24</td>
<td>2.9</td>
<td>1.96</td>
</tr>
<tr>
<td>Group B</td>
<td>18.96</td>
<td>.26</td>
<td>45</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>90</td>
<td>48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*. Group A and B show PS pattern texts readers and non-PS pattern text readers, respectively.

Table 3: t-test for both groups' comprehension of PS pattern texts and non-PS pattern texts

As table 3 represents, the calculated mean and the standard deviation were respectively, 19.48 and .16 for group A and 18.96 and .26 for group B. The t-obs was reported as 2.9. The means for both groups are illustrated in Figure 2.

Figure 2: Comparison of readers' comprehension in PS pattern texts and non-PS pattern texts

Examples of articles used by a native writer of English

New York Times, 27th Jan 2011

Topic: Egyptians Demand End to Mubarak Rule

The trigger of the pattern is the word "anti-government", negatively evaluates a situation and invites a description of some response, and the pattern effectively begins at this point, with the identification of some problem. Problem can be defined as an aspect of the situation requiring a response (Hoey, 1983) and gives rise to the expectation of a response. This element of the patterns often referred to in the literature as a solution, though strictly the latter label is in appropriate since what is expected is the description of something done to deal with the problem, not necessarily something that was successful in dealing with the problem—a subtle distinction, but an important one.

It is important in any analysis to identify the signals that trigger recognition of pattern and subsequently confirm its existence, since they are a direct linguistic reflection of the pattern.
A problem having being indicated in the text, a response is sure to follow, and the offer of one comes in the second and last sentences. This also contains a negative Evaluation/Result within it "protests", "died", "riots", "urged". This Evaluation/Result are not repeated in the other sentences. As we have talked about it, a problem is being unambiguously signaled. But what is the problem? Again, the text is unambiguous: the problem is "riot". In sentence 2 a situation is mentioned: "the pro-democracy youth group ..........urged people to head back to Cairo’s main square Wednesday" what follows are positively evaluated the situation both by the writer and by the reader. "demand", "right to life", "liberty", "dignity", "call on everyone to take the streets". What follows are negatively evaluated the situation "banned", "prosecuted", "no provocative moves". How ever the last sentence offers a negative result; the sentence answers the question "What did government do about it?" "Legal measures will be taken against anyone (in contravention), will be transferred to the prosecution," the statement continued.

<table>
<thead>
<tr>
<th>situation</th>
<th>Egyptian activists called for a second day of street action on Wednesday…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem</td>
<td>riot and demonstration</td>
</tr>
<tr>
<td>Response</td>
<td>We will take the streets to demand the right to life, liberty, dignity and call on everybody to take to the streets</td>
</tr>
<tr>
<td>Negative evaluation</td>
<td>Further demonstration were banned, anyone would be prosecuted (end of the pattern/result)</td>
</tr>
</tbody>
</table>

Examples of articles used by native speakers of Persian (Iranian)

Iran Daily, 30th, Jan 2011

Topic: Egypt protests

The pattern we find in this text is one of the options indicated in figure above, now shown in figure. Sentence 1 reflects a type of information that can be supplied prior to the onset of a pattern.

There is a negative evaluation and invites a description of some response. This sentence “the demonstrations of the Muslim Egyptian nation are a movement seeking the realization of justice and Egyptians’ national and ideological demands. Is clearly signaled as problem by the word “demonstration”. In sentence 2 we are told of a response to this problem: “expected to avoid the use of violence in dealing with the people” and the response is initially given a negative evaluation. So this signal returns to problem. Sentence 3 “to accept the Islamic awakening and to submit to the people’s
demands” meets the expectation of another response to the problem, without implying a positive result. In last sentence, response to this problem would answer the question what did Mubarak do about it? “…Mubarak defended the actions of the security forces and asked the protesters to be vigilant in the face of a plot aimed at destablishing the country”. The pattern of the article, then, is shown in figure below.

Although this analysis looks complicated, it is in fact extremely simple, consisting as it does of repeated patterns of problem- response- negative evaluation/ result, where each instance of the last element reinstates the original problem.

Comparing the two mean scores through t-test calculations, since the groups scored differently in the Michael Hoey's PS pattern, and the difference was statistically significant; the null hypothesis was justifiably rejected.
Accordingly PS pattern readers proved to be more effective and more successful in understanding the text.
Although the two groups were not significantly different at outset of the study; they behaved differently on the final test.
Therefore, it seems reasonable to claim that the final calculated t-test (6.9) at the p<0.05 level of probability is due to the readers of PS pattern texts. As a result it can be concluded that these readers are far better than those of the non-PS pattern ones in enhancing reading comprehension.

Conclusion
According to what has been discussed in the paper:
(a) The elements of problem solution pattern are attributed to participants in the text, those participants including the writer and reader.
(b) Participants attribution permits the recognition of the interweaving of different and co-existing patterns.
(c) By problem-solution patterns which are based on textual interaction between writer and reader, M. Hoey clearly sets out his own approach along with key concepts and analytical technique.
(d) The approach shows how much these different texts have in common with each other and argues that in the interaction between the writer and the reader, the reader has as much power as the writer.
(e) Problem solution pattern, in fact, is a way of indicating how the information is relevant. This model contains interaction between language and the knowledge, beliefs and expectations of language users.
The exact nature of this interaction is a central issue in text and discourse analysis.
Text organization analysis of the present study indicated that most writers who used PS pattern in their writings can assist readers the best to understanding. Generally speaking, native and non native speakers of English employed more PS pattern. PS pattern is a valuable tool which provides rhetorical effects on the text such as providing logic and reliance in the text. In the era of dialogue among civilizations, it should be kept in mind that as Yarmohammadi (2004) mentions, meaning comes from culture, and there is a mutual and indirect relationship between language and culture. We can not create an effective dialogue with people in other languages without having knowledge of the organization used in those languages. The finding patterns in texts are a matter of interpretation by the reader, making use of clues and signals provided by the author (McCarthy, 1991). PS pattern provides part of this field knowledge for us. And PS pattern is a useful means for the teachers to help students control their writing practices for effective writing.

All in all, this study could be considered as a launching pad for future research in text organization of English and non-English writers which has been abandoned and forgotten especially by researchers in TEFL and linguistics, who are most responsible for the development of the future trends in this field.
References


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