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Investigating the relationship between discourse markers, language proficiency and reading comprehension: a case of some Iranian university students

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Abstract

This research aimed at investigating the relationship between discourse markers (DMs), language proficiency and reading comprehension of EFL university students. Three groups of students were selected to participate in the study. The participants in each group took a proficiency test and a reading comprehension test including two passages with various numbers of DMs. Two statistical measures such as UNANOVA and Matched T-Test were run. The study came to significant findings: (1) More DMs meant better comprehension. (2) Levels of proficiency did not display clashing results when dealing with a fewer number of DMs. (3) Manipulation of the passages was significant.

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Keywords: Coherence and Cohesion; Discourse Markers; Language Proficiency; Metadiscourse; Reading Comprehension

1. Introduction

An influential factor in reading comprehension is the structure of the text, and two properties of any text are cohesion and coherence (Widdowson, 1978). Coherence is an underlying semantic relation which turns the words, sentences, or propositions into a unified understandable whole and is achieved by interpreting each individual sentence and relating these interpretations to one another (van Dijk, 1977). But cohesion as ‘surface-level ties’ links separate phrases, clauses, sentences, and even paragraphs into a unified discourse (Gumpers et al., 1984). Additionally, Nunan (1993, p. 59), emphasizing the term cohesive devices, believes that “coherent texts are distinguished from random sentences by the existence of certain text-forming, cohesive devices.” These words are described as “cohesive devices,” as they create links across the boundaries of mere fragments, or can chain related items together. In a nutshell, text structure is assumed to be a decisive factor in revealing the writers' attitude while text structure itself is responsible to certain metadiscourse features. To illuminate the point, metadiscourse features are those facets of a text which make the organization of the text explicit, provide information about the writer's attitude toward the text content, and engage the reader in the interaction. (Intaraprawat and Steffensen, 1995, p.1). This research attempt is to investigate any possible relevance of reading comprehension to the number of discourse markers (a metadiscourse element) and language proficiency of English learners; it being limited to Iranian EFL learners. The findings of this effort would mostly contribute to answering the following questions: Is EFL readers' comprehension of a text related to the numbers of DMs in a text? In comprehension of a passage, do learners on different levels of proficiency benefit differently from the existence of DMs? Does cuing the DMs of a text (through bolding the DMs in this study) or omission of them have any relationship with the EFL readers' comprehension of a text?

2. Methodology

2.1 Participants

The population from which the participants were selected included 132 male and female students from Isfahan University in Iran. They were all sophomore and junior students majoring in English language and literature and had already passed a number of courses in reading comprehension and writing. That is to say, they were all familiar with English textual elements and especially inter-sentential as well as intra-sentential linkages. They were informed that they were taking part in a research project and were promised that they would receive a report with their results.

2.2. Materials

In keeping with the gaps of the study, various sets of materials were utilized. Oxford Placement Test (OPT), incorporating 100 multiple choice items on various grammatical points, was used in order to make a report on the level of proficiency of the participants. Also, Two authentic passages were picked out to be developed into Reading Comprehension Test 1 (RCT1). In so doing that, the two passages were adopted from *In charge* English series– an integrated skills book for high-level students by Deborah Gordon in 2003– and adapted to the purposes of the study. This selection rested upon three main criteria:

1. The subject matters of the two texts were intended to be of somewhat uncommon entities.
2. The two texts were destined to be marked with the same level of difficulty.
3. The two texts were meant to enjoy unequal number of DMs in order to satisfy the demands there were for a text holding a larger and a text holding a fewer number of DMs.

A second set of reading comprehension test also appeared to be necessary. For all that, highlighted DMs came out to be the key constituents in this second test. In point of fact, when developing Reading Comprehension Test 2test (RCT2), in addition to the three above-mentioned factors, one more variable was also taken account of: highlighting the DMs (here, boldfaced).

The “optionality” feature of DMs allows these constituents to be done away from a text. Accepting this and borrowing RCT1 again, we were capable of constructing the final reading comprehension test (RTC3). As a consequence, a test very like RCT1 and RCT2-using the same passages-was developed. Yet, it differed from both in that it didn't contain any DMs i.e., DMs had been drawn out of it.

2.3. Procedures

Three groups of participants took part in the study, and the study was conducted in three sessions. OPT was set to work at the onset of all three sessions of data collection. The first reading comprehension test (RTC1) was executed precisely at the first session of test administrations. Thereby, this test followed the OPT and was handed out to the 41 participants of G1. RTC2, undoubtedly, came out to find the solutions to the second and the third research questions. RCT2, as its name suggests, was administered on the second day of the test administrations. Just the same as RCT1, RCT2 also followed the OPT and was distributed to the 43 students of G2. RCT3 was handed out on the third day of the test administrations. A sketch of these procedures is highlighted in the table below:

Table1. A summary of the procedures

Sessions	Session 1			Session 2			Session 3		
Groups	G1			G2			G3		
Number Of Participants	41			43			48		
	RCT1			RCT2			RCT3		
Tests	OPT	RCT1L	RCT1F	OPT	RCT2L	RCT2F	OPT	RCT3L	RCT3F

G: Group; OPT: Oxford Placement Test; RTC: Reading Comprehension Test; L: Larger DMs; F: Fewer DMs.

3. Data Analysis

A Paired-Samples T Test was conducted to compare the means of two sub-test results representing G1's performances on passages incorporating unequal numbers of DMs.

The mean scores G1 gained on the passage including a larger number of DMs (5.70) exceeded the one they obtained on the passage containing a fewer number of DMs (4.87), indicating that G1 was more at ease with the text including a larger number of DMs. Having scanned the statistics of the Paired Samples T Test, we need to determine

if the difference across the variables is considerable. Thereby, table 2 clearly illustrates the significance of the resulting difference.

Table2. UNANOVA Table on Language Proficiency, Number of DMs and Reading Ability of the Participants

Dependent Variable: Score					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.781	3	9.260	8.896	.000
Intercept	2254.878	1	2254.878	2166.149	.000
LP	10.976	1	10.976	10.544	.002
L / F DMs	10.903	1	10.903	10.474	.002
LP * L / F DMs	2.707	1	2.707	2.601	.111
Error	81.195	78	1.041		
Total	2406.000	82			
Corrected Total	108.976	81			

P < 0.05

It can be inferred that since level of proficiency and number of DMs are significant, there may be a difference in reading ability between the different levels of proficiency, and/or the different amounts of DMs. Nonetheless, since the interactive variable (LP*L/F DMs) is not significant ($P > 0.05$), there may not be differences in reading ability for combinations of language proficiency and amounts of DMs.

Until now, it has been discovered that the level of proficiency and the number of DMs could significantly affect one's understanding of a text. Here, however, a second step was needed to see which group benefited from a larger number of DMs. Therefore, Paired-Samples T Test was employed to make a comparison between the two subgroups' performances on LDMs and FDMs. It was deduced from the paired Sample T Test that the participants on two dissimilar levels of proficiency did not differ much when performing on passages with LDMs, but that they were considerably different when doing on the text with FDMs. The advanced members, specified through the results obtained from OPT, outdid the intermediate ones and the mean scores on passages with LDM surpassed those with FDM except for LDM in the intermediate row of the table that did not exceed FDM in the advanced row. Having realized that a better performance of the participants could relate significantly to the existence of a larger number of DMs, we tried to examine if a better performance could also relate significantly to the level of proficiency. To do so, a set of statistical procedures were conducted, namely Univariate Analysis of Variance (UNANOVA) and Paired-Samples T Test.

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Once more, however, to compare the results and to determine if there was a difference among the mean values, a Univariate Analysis of Variance (UNANOVA) procedure was employed; the manipulation of DMs being the IDV and the reading comprehension scores being the DV of the test. The results of this statistical procedure are shown in Table 3 below:

Table3. UNANOVA Table on the DMs Manipulations and the Reading Comprehension Scores

Dependent Variable: Score					
Source		Df	Mean Square	F	Sig.
	Type III Sum of Squares				
Corrected Model	88.232(a)	2	44.116	15.806	.000
Manipulation	88.232	2	44.116	15.806	.000
Error	284.683	102	2.791		
Total	10813.000	105			
Corrected Total	372.914	104			

The results of this table display that the single variable of this test (manipulation) is significant in that the F ratio has got a high value (F=15.806) in addition to the fact that the significance value has emerged to be much smaller than 0.05 (p<0.05).

However, a UNANOVA table does not specify which means differ and where precisely this significance lies. Thereby, a Post Hoc Test was also employed to inform us about multiple comparisons of various manipulations; so that, we could figure out from which type of manipulation this significance has emanated.

The Scheffe Post Hoc Test was conducted in order to show where exactly the difference lies. Scheffe homogeneous subsets stood in the same line as the significance of differences discovered in Scheffe Post Hoc Test above. In the subset columns the subsets of means that did not differ from one another were displayed in the same column. In this regard, the first subset included one mean (8.64) in it while the second is representing two means ranging from 10.58 to 10.63. These results indicate that the test results on passages with no manipulations of DMs and the passages including highlighted DMs do not differ significantly.

In a nutshell, the subjects may have been affected by omission of DMs to a great extent while this may not be true about highlighting the DMs. Through analysis of the obtained data it was found that the number of DMs had the most positive effect and that omission of DMs had the most negative impact on reading comprehension of the learners. At the same time, it was also illustrated that level of proficiency came to work positively only when the intermediate group was dealing with a larger number of DMs, but not when the same group was tackling the fewer number of DMs and not when the advanced group was involved in comprehension of a text.

4. Results, Discussion and Conclusions

The following findings can be derived from this inquiry on the relationships between number of DMs, manipulations of DMs and proficiency of the learners. They are summed up as follows:

- a. DMs play a facilitating role in the comprehension of a text; consequently, the number of DMs can be effective in further facilitating and smoothing of the reading process. That is to say, a rise in the number of DMs can also increase the revelation of the rhetorical structure of a text and thereby increase the level of facility these markers equip the readers with. In fact, a fewer number of DMs seems not to hinder the comprehension of a text, but it may hinder expansion of the possibilities for the semantic relationship between the elements they associate.
- b. Level of proficiency, as it has often been noticed, affects the comprehension of a text since more proficient learners have got a greater English proficiency to go ahead in understanding it. The participants did not differ in their performances when a comparison was made between their comprehension of authentic passages and the passages including cued markers. It may be that the cueing of DMs is an ineffective factor in attracting the learners' attention.
- c. From a linguistic point of view, the optionality of DMs is taken for granted. Nevertheless, applied to the issue of learning, DMs are not and cannot be optional when one is to capture the (larger) picture of a text. A possible explanation can be that the participants' low comprehension of the passages in this inquiry was most probably a direct result of omitting the DMs. In this sense, even those more proficient learners who appeared not to benefit much from a larger number of DMs appear to have problems when DMs are omitted. Taken together, the omission of DMs can damage even the comprehension of those who may not be reactive to the degree of existence of DMs in a text.

This paper is probably to draw language teachers' and researchers' attentions to discourse markers while the learners are involved in reading comprehension. Simply, guessing through context clues is commonly suggested in reading classes and English books. In fact, language teachers expect readers to make sense of a whole text through guessing the meaning of the new words. However, DMs as linkages between long spans of discourse are mostly neglected as a means that can help speeding up the guessing process. To find out about inter-sentential linkages can facilitate guessing the meaning of single words in distinct sentences.

5. Suggestions for Further Studies

The work described here only focused on larger and fewer DMs, advanced and intermediates and cueing and boldfacing while, in fact, other types of manipulation as well as other groups of proficiency and other counts of DMs can be regarded as well. Future work should investigate explicit instructions on DMs as well as typographically explicit versions of texts.

Further research can investigate whether the results of this study are true about spoken contexts. That is to say, the variables of current study can be checked against the listening comprehension of learners to see if the same results come out in the two different contexts of written and spoken.

It is well known that it is difficult to translate discourse markers from one language to another and that only when second language speakers become fluent they can do this. A useful extension to this work could be to observe the effects of numbers and manipulations of DMs on English/Persian translation of the students majoring in Translation. Various text genres, their uses of DMs and the learners' benefit from these linkages can also give a broader perspective of the findings of this study.

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