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THE IMPACT OF TEACHING TOPICAL STRUCTURE ANALYSIS ON WRITING PERFORMANCE OF TURKISH EFL SPEAKERS

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Abstract

As coherence is abstract in nature and there are very few practical techniques to teach it, this is considered to be one of the main problems that EFL students and teachers encounter. Although there is considerable research analyzing problems and difficulties with coherence among EFL learners, few practical pedagogical strategies have been suggested that can be used by teachers and understood by learners. Topical Structure Analysis is one of such techniques suggested and could be taught to EFL learners in order to help them improve their writing skills. This experimental study sheds light on the effects of teaching Topical Structure Analysis to Turkish university students who learn English as a foreign language. Two groups with four participants in each were used for this research. While one group was subjected to Topical Structure Analysis treatment (experimental group) for six weeks, the other received no such training. At the end of such a training period, both groups were assigned writing tasks which were analyzed for coherence. The results obtained indicate that a considerably positive effect of teaching Topical

Structure Analysis was observed on the writings of experimental group, while the participants of the control group remained relatively poor performers of coherence in their writings.

Keywords

Writing, Writing Quality, Coherence, Topical Structure Analysis

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1. Introduction

Writing is one of the most challenging aspects of second language learning, as it requires generating and organizing ideas, and putting these ideas together in a harmonious way. Besides, writing also includes different sub-skills like planning, organizing, spelling, punctuation, word-choice, and grammar. However, while such skills are underscored in EFL/ESL writing classes, rhetorical facets like cohesion and coherence are usually ignored, or are focused on slightly. Although teachers pay little attention to the topic of coherence in their teaching, however, they have the tendency to look at coherence of a discourse while assessing writing and speaking (Yule, 2006).

Coherence is the harmony of ideas in a discourse, and has been claimed as an important indicator of a good writing. It can be defined as the smooth linking of sentences throughout a text. All sentences are connected to each other, and there is a smooth flow from one to the other. This being the case, writing a coherent text is not an easy task, as each text has its own audience and pertaining assumption and expectations about how organization of a good text should be. Thus, it can be said that coherence is an important point of reference of a good writing (Hughes, 2003).

Coherence is commonly described with the Topical Structure Analysis (TSA) approach (Witte, 1983a, 1983b; Connor and Farmer, 1990), and has been used by some studies in assessing EFL learners' writing. It has also been recommended to be taught as a self-revision strategy for ESL learners (Connor and Farmer, 1990). It has been asserted that TSA can be thought as a self-revision strategy, and thus may help university students to identify their coherence breaks (Connor and Farmer, 1990; Chiu, 2004). However, although there are studies showing the potential benefits of TSA as a pedagogical tool, more detailed and in-depth studies should be made to observe the feasibility of the implementation of this approach to instruction in EFL writing classes.

An effective instruction of coherence is needed to teach writing in EFL. Detailed studies are required to find proper techniques to teach coherence. Few researchers have focused on this matter and proposed some strategies that could be used in teaching coherence (Connor and Farmer, 1990; Lee, 2002a, 2002b). One of these techniques is Topical Structure Analysis (TSA) which was proposed by Lautamatti (1987). TSA is a text-based analytic technique that focuses on the semantic relationships between sentence topics and the overall discourse topic. In this approach, there are three types of progression of sentences identified: *parallel*, *sequential*, and *extended parallel*.

As coherence is abstract in nature and there are very few practical techniques to teach it, it is considered to be one of the main problems that EFL student writers and teachers encounter. Although, there is considerable research analyzing problems and difficulties with coherence among EFL learners (Todd, Khongput, and Darasawang, 2007), few practical pedagogical strategies have been suggested that can be used by teachers and understood by learners. TSA is one of the techniques that has been suggested and could be taught to EFL learners in order to help them improve their writing performance. However, in recent decades the focus of most studies regarding TSA has been on evaluating learners' texts in terms of comparing high-rated to low-rated compositions, or comparing different groups of texts written in different languages.

Researchers and writing teachers are familiar with the idea of 'topic', as in 'topic sentence' and the idea of 'unity'. Every sentence has a topic or a main idea which is, however indirectly, related to the discourse topic. Sentence topics are arranged in a hierarchical order to develop the discourse topic. Thus, sentence topics are regarded as bits of meaning gathered semantically to contribute to the development of the discourse topic. The relationship of the discourse topic to sentence topics and how relationship is developed throughout the text has gained interest among other researchers such as Liisa Lautamatti (1987), who worked on thematic progression and developed what has been called Topical Structure Analysis (TSA). Her view is built on the consideration of the reader's expectations about the way written texts are structured. The job of the writer is to meet these expectations by producing a coherent piece of writing. What readers expect is a gradual development of the main idea of the text by presenting hierarchical sequences which make up the whole text related to that main idea, or discourse topic. To demonstrate the semantic relationships that exist between sentence topics and the discourse topic, Lautamatti (1987) maintains that these relationships are expressed through sequences or topical progressions. According to Lautamatti, there are three types of topical

progressions which show how sentences are related to each other and to the discourse topic: 1) *parallel progression* (PP), 2) *sequential progression* (SP), 3) *extended parallel progression* (EPP).

Parallel progression (PP): is similar to Daneš's thematic progression with a continuous theme, where the themes (topics) of successive sentences have the same referent. In other words, the sentence topic of the first sentence is semantically repeated in the following sentences.

Sequential progression (SP): which corresponds to Daneš's simple linear thematic progression, where the comment in a preceding sentence becomes the sentence topic of the following one. This can be achieved by adopting Halliday and Hasan's cohesive devices such as personal references or reiteration.

Extended parallel progression (EPP): is a parallel progression which is temporarily interrupted with a sequential progression.

In a further step, Lautamatti clarified the relationship between the progression of sentence topics and the semantic hierarchy by employing the expression 'topic depth'. Lautamatti hypothesized that the sentence topic which comes first in a text is at the highest level in the semantic hierarchy. For her, both topical progression and depth are combined to represent the topical structure of an extended text.

Figure 1 below portrays how Lautamatti analyzes the topical progression and depth of a text. This diagram consists of three fields: (1) the number of sentences, (2) the topical structure of the text (topical progressions and topical depth), and (3) the number of sentence topics (or sub-topics). The diagram shows that the passage consists of ten sentences dealing with five distinct sentence topics which are all semantically related and contribute to construct the discourse topic. Apparently, the first four sentence topics are semantically identical, and therefore, form a parallel progression. The three succeeding sentences are comments of previous ones, thus forming a sequential progression. This progression in sentences 4 through 7 is the longest sequential progression in the passage, and therefore, it determines the topical depth of the text. Sentence 8 repeats the primary sentence topic and then sentence 9 presents a new sentence topic forming a sequential progression whereas sentence 10 re-adopts the primary sentence topic, therefore, constituting an extended parallel progression. This is not a new progression, but a parallel progression interrupted with a sequential progression. Generally speaking, the passage has three types of progressions, four levels of topical depth and five topics. Six sentences out of ten have the same sentence topic mentioned in the first level of the topical depth. Lautamatti

(1987:99) maintained that this indicates the importance of this topic because: (a) it is mentioned first, (b) it appears most frequently, and (c) it exists at the highest level in the hierarchy of information in the text.

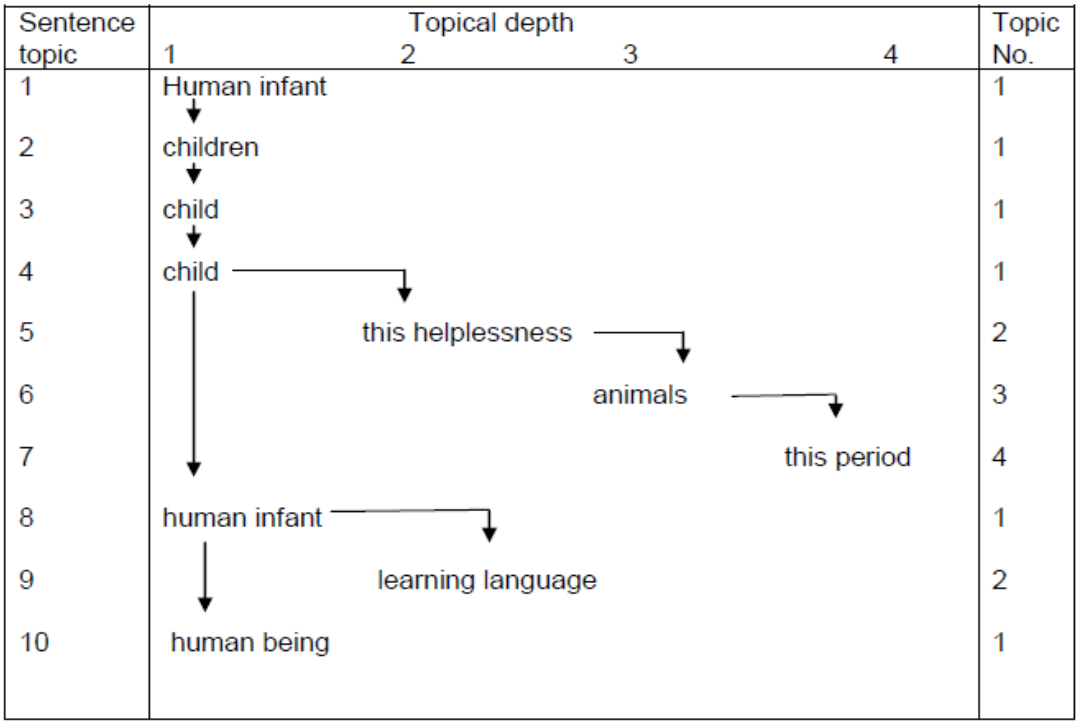


Figure 1: The topical structure of The *Language and Community* Passage

Source: Lautamatti (1987)

At first, TSA was employed as an objective method to examine coherence and proportions of topical progression in students' texts (Almaden, 2006; Barabas&Jumao-a, 2009; Carreon, 2006; Lautamatti, 1987; Simpson, 2000; Witte &Faigley, 1981). More recently, it has been taught to students as a revision strategy to investigate their writing coherence (Cerniglia, et al., 1990; Chiu, 2004; Connor & Farmer, 1990; Fan & Hsu, 2008; Nunan, 1994; Sakontawut, 2003). According to Connor and Farmer (1990), the implementation of TSA as a self-revision strategy in ESL writing classes demonstrated that the students' writing improved after the revision, particularly in terms of coherence. Additionally, the students responded positively to TSA that it helped them check the meanings of their sentences and reminded them of the relationship between the meanings of the main topic and the purpose of their writings. Similar results were found by Cerniglia, et al. (1990), who developed a computer- assisted instructional

program to teach TSA to ESL students. It was found that this program helped students to connect ideas in writing, and produce well-organized texts more effectively.

In Sakontawut's (2003) study on a revision process of Thai college students after learning Functional Sentence Perspective (FSP), the results revealed slightly different scores between the pretest and the posttest conducted. It was found that TSA could help students focus more on meanings and discourse-level features of writing in their revision. Moreover, a case study of Chiu (2004) on coaching a college English major student to develop coherence based upon TSA indicated that the student recognized the importance of coherence after learning and practicing TSA. Likewise, Fan and Hsu (2008) evaluated the feasibility of implementing TSA as a revision strategy for Taiwanese EFL graduates. The findings showed that the instruction had a positive effect on the students' revising process. Moreover, it was found that sequential progression was most frequently used in the students' writings.

Attelisi (2012) conducted an experimental study with 63 EFL Libyan university students to explore the impact of teaching TSA. He taught TSA to EFL university students as a writing and revision strategy. He used rubrics and topical analysis to assess the effects of TSA. The results of the study demonstrated that a significant improvement in writing in terms of coherence was observed. His study showed that TSA could be an effective writing strategy to improve coherence.

Kilic, Genc, and Bada (2016) conducted a study with Turkish ELT students, and carried out a Topical Structure Analysis (TSA) on essays produced by 81 ELT students from three different universities in Turkey (Gaziantep, İnönü, and Hakkari). The results showed that Turkish ELT students were not as skilled as they should have been in topical structuring. Moreover, Turkish students usually preferred to use parallel and sequential types of progression, while extended progression was a less common choice. The researchers also found that the participants mostly used pronouns for parallel progression, whereas they switched to new noun phrases for sequential progression. The results showed that Turkish ELT students had problems with writing coherent essays. Thus, a method for improving coherence in their writings was found to be necessary needed.

1.2. Importance of the Study

This research intends to shed more light on the effect of teaching TSA to Turkish university students who learn English as a foreign language. In contrast to previous studies, this research explores the impact of teaching TSA on the writing performance of Turkish university

students from the perspective of learners' general quality of writing, i.e., increases/decreases in scores, and production of coherent text.

1.3. Scope and Objectives of the Study

It is hoped that the findings of this study could provide EFL teachers and learners with a simple and yet a practical technique for teaching and learning coherence.

The study adopts Lautamatti's (1987) TSA approach and its theoretical background. In order to investigate whether TSA instruction would have an impact on the production of coherent texts in the writing of Turkish university students, the following research questions were posed and sought responses to by the researchers:

1. Are there any statistically significant differences between the scores of Control and Experimental groups' essays when pre-test and post-test results are compared?
2. Are there any statistically significant differences between the production of coherent texts by Control and Experimental groups?

2. Methodology

2.1 Research Design

A true-experimental research design was embraced in this study, students were divided into two equal groups, and randomly assigned to either the Experimental or the Control Group.

2.2 Setting

The study was carried out in the School of Foreign Languages of Gendarmerie and Cost Guard Academy, Ankara, Turkey. At this university, students go through a preparatory program learning English for an academic year. Writing is one of the four fundamental skills that students are required to develop. Throughout the academic year, students are taught how to produce accurate and well organized English texts.

2.3 Participants and Sampling

For this study, a convenience sampling strategy was used, and the participants were EFL Turkish university students. An experimental study was carried out in a duration of six weeks with eight students. Following a placement test, participants with similar scores were randomly divided into two groups. In each group, there were four students.

2.4 Procedure

The data was collected through essays produced by the participants pre and post training in TSA. An analytical (Hyland, K.,2003a) and a holistic (Hyland, K.,2003b) scoring rubric, as

well as a trait-based scoring scale (Chiang, Steve Y., 1999) were employed in rating the essays. A six- week training program was developed for teaching TSA.

At the beginning of the term, both groups were pre-tested, and were given only one topic to write about in the usual class hour based on a documentary video shown preceding an assignment of the writing task.

Both groups were taught by the same instructor utilizing the usual course material, and the groups received the same instruction, except that the Experimental Group was taught TSA six hours a week for six weeks. At the end of this training, both groups were post-tested, and were given the same video documentary shown for pre-test to write on. Following this procedure, the data obtained from both the pre- and post-tests was analyzed utilizing SPSS v.21.

3. Results

Table 1 below shows the comparison of analytic and holistic rubric pre-test and post-test scores. The coherence part of analytic rubric (ARC) is separately given in the table to emphasize and clearly portray the development of coherence in students' writings. The first important finding the table illustrates is that Experimental Group (EG) students scored higher than the Control Group (CG) and, when their pre and post test results are compared, this group displayed bigger increase regarding the analytic (AR) and holistic rubric scores (HR). The score for CG regarding AR increased from 63.25 to 70.88, and regarding HR it rose from 64.25 to 69.25. The score for EG regarding AR went up from 61.19 to 79.38, and regarding HR it increased from 63.19 to 77.88. Another important finding is that the coherence score for CG, regarding ARC increased from 11.25 to 13.63; and for EG, regarding ARC the coherence score rose from 10.81 to 16.50.

Table 1: *Descriptive results of pre and post-test rubric scores*

	Group	**Analytic Scoring/Total**			**Analytic Scoring/Coherence**			**Holistic Scoring**		
		Pre	Post	Difference	Pre	Post	Difference	Pre	Post	Difference
Mean	CG	63.25	70.88	7.63	11.25	13.63	2.38	64.25	69.50	5.25
	EG	61.19	79.38	18.19	10.81	16.50	5.69	63.19	77.88	14.69
Std.Dev.	CG	12.464	10.750	1.714	1.389	1.188	-0.201	13.047	10.351	-2.696
	EG	11.716	8.501	3.215	2.264	2.000	-264	11.519	7.846	-3.637
Minimum	CG	46	59	13	8	12	4	45	57	12

	EG	43	68	25	8	14	6	45	70	25
Maximum	CG	83	88	5	13	15	2	80	85	5
	EG	80	92	12	15	20	5	84	90	6

For a deeper analysis utilizing Whitney U Test, we came up with the results as in Table 2 below suggesting that there was only one significant difference between the scores of CG and EG. The table points out that only coherence scoring of CG and EG shows significant differences (p = .008). Therefore, we can state that the EG students' writings developed better in terms of coherence.

Table 2: *Results of pre and post-test rubrics scores with Mann Whitney U Test*

Type of Scoring	**Analytic Scoring / Total**					**Analytic Scoring / coherence**					**Holistic Scoring**				
	Mean Rank	Median	Mann Whitney U	Z	p-value	Mean Rank	Median	Mann Whitney U	Z	p-value	Mean Rank	Median	Mann Whitney U	**Z**	**P**
CG	6.50	69.50	16000	-1.685	.092	5.38	14.00	7000	-2.675	**.008**	6.56	67.50	16500	-1.639	.101
EG	10.5	80.00				11.63	16.50				10.44	75.00			

From Table 3 below, we can observe that EG students' scores related to coherence were significantly different regarding items 3 (p = .040), 5 (p = .023), 6 (p = .041), and 8 (p = .026). CG participants' scores indicated significant differences regarding items 1 (p = .046) and 4 (p = .041) only. However, no significant differences were observed in items 3 (p = .257), 5 (p = .317), 6 (p = .059), and 8 (p = .276). Since item 1 in the rubric aims to assess the introduction part in terms of effectiveness, and item 4 focuses on whether ideas are elaborated on, we cannot thus depend on the figures obtained from these two items while endeavoring to develop an idea regarding improvement in CG coherence. Therefore, when pre-test and post-test results of both groups are compared, improvement of coherence in EG participants' writings is much more conspicuous than that of CG.

Table 3: *Comparison of CG and EG results with Wilcoxon Signed Rank Test*

Group		PSTB1 PRTB1	PSTB2 PTRB2	PSTB3 PTRB3	PSTB4 PRTB4	PSTB5 PRTB5	PSTB6 PRTB6	PSTB7 PRTB7	PSTB8 PRTB8
CG	Z	-2.000[b]	-1.730[b]	-1.134[b]	-1.983[b]	-1.000[c]	-1.890[b]	-1.000[b]	-1.089[b]
	Asymp. Sig. (2-tailed)	**.046**	.084	.257	**.047**	.317	.059	.317	.276
EG	Z	-1.236[b]	-1.913[b]	-2.058[b]	-1.886[b]	-2.271[b]	-2.041[b]	-.541[b]	-2.232[b]
	Asymp. Sig. (2-tailed)	.216	.056	**.040**	.059	**.023**	**.041**	.589	**.026**

a. Wilcoxon Signed Ranks Test b. Based on negative ranks c. Based on positive ranks.
PSTB: post trait-based PRTB: pre-trait based

4. Discussion

The main objective of this study is to analyze the impact of teaching TSA on Turkish EFL learners' writing performance. The study endeavored to reveal how writing scores of participants changed regarding the overall quality and coherence of written text. The findings showed parallelism with the results of Connor and Farmer's (1990) study, in that this technique was found to be effective in improving coherence in the writings of ESL students. However, while we taught TSA as a writing technique to our participants, Conner and Farmer, different from ours, they taught TSA as a self-revision strategy. Nevertheless, in both studies students were observed to perform better in terms of coherence. Additionally, similar results were also obtained by Cerniglia, et al. (1990), who created a computer-assisted instructional program to teach TSA. Results of that study showed that teaching TSA did also help students to produce well-organized texts.

Chiu in 2004 conducted a case study, which focused on the development of coherence specifically. In that study, he coached a college student in English major to develop coherency in writing. He found similar results to our research that teaching TSA aided to write texts that are more coherent. In addition to these studies, Attelisi (2012) conducted an experimental study in which he taught TSA as a writing technique. He, also, reached analogous results indicating that teaching TSA has a positive effect on coherence and overall writing quality.

Based on the findings we obtained, the research questions posed received significant responses. As for Research Question 1: *Are there any statistically significant differences between the scores of Control and Experimental Group's essays when pre-test and post-test results are compared?* We can state that the Experimental Group participants improved significantly in terms of scoring. While the score for CG regarding AR went up from 63.25 to 70.88, and regarding HR rose from 64.25 to 69.25, the score for EG regarding AR increased from 61.19 to 79.38, and regarding HR, went up from 63.19 to 77.88. Therefore, we can state that the training of TSA yield a positive effect on the writing of students.

As for Research Question 2: *Are there any statistically significant differences between the production of coherent texts by Control and Experimental groups?* From Table 2 above, a significant difference ($p = .008$) between the scores of coherence part in analytic rubric could be observed. Additionally, from Table 3 we can observe that there are significant differences regarding the items of trait-based rubric: for Item 3, $p = .257$; for Item 5, $p = .317$; for Item 6, $p = .059$; and for Item 8, $p = .276$.

These results indicate that the TSA technique aided students in attaining higher scores. It also did improve their production of coherent texts.

Although the study yielded salient results, it is however, not free from limitations, one which being that it could have been conducted with students from different levels to add a cross-sectional aspect.

5. Conclusion

EFL writing is a difficult skill to teach, and it is mostly based on teaching some specific formations, which tends to be superficial. This skill requires the teaching of some sub-skills like planning, organizing, spelling, punctuation, word-choice, and grammar. Additionally, rhetorical facets like coherence are usually neglected. It is clear from the results of this study that explicit teaching of TSA as a writing technique to improve coherence in Turkish EFL students' writings resulted positively. The statistics proved that teaching TSA helped students to write coherent texts. As a conclusion, we strongly suggest that TSA proved to be an effective writing technique in improving coherence and writing quality, and thus, should be taught in writing classes within different contexts in order to better assess its impact on overall language writing performance.

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