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Bilal Genç¹, Volkan Darmaz², Namık Ülkersoy³
^{1,2,3}Inonu University

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An Analysis of Topical Structure in Argumentative Essays of EFL Learners

Bilal Genç^{1*}, Volkan Darmaz², Namık Ülkersoy³
^{1,2,3}Inonu University

¹Orcid ID: 0000-0002-6231-6057

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Abstract

In teaching and learning, foreign language teachers and learners aim to improve four skills to the extent which is considered native-like or at least advanced. Quite naturally success in each skill is assessed based on different parameters. This paper explores improvement in writing skills of English language learners through the examinations of compositions written in May of 2014 and 2017. Syntactic and lexical complexities alongside with topical structure analysis are used to discover the potential improvement between the two groups of papers written by 31 participants of the study. The statistical analyses revealed that there were statistically significant differences between the two performances of the participant students writing performances in terms of lexical complexity and a remarkable though not significant improvement in their syntactic complexity.

Key words: Topical structure analysis, Argumentative essay, Lexical and syntactic complexity

INTRODUCTION

In teaching and learning, foreign language teachers and learners aim to improve four skills to the extent which is considered native-like or at least advanced. Quite naturally success in each skill is assessed based on different parameters. While quite reliable objective tests have been developed to assess listening and reading skills, testing writing and speaking have always proved challenging for language teachers and researchers (Melissourgou & Frantzi, 2015; Susser, 2010); even professional organizations focusing on language testing trying to find new practical and objective ways to measure these two skills.

Quite surprisingly during the 40s and 50s writing was not considered to be a skill on its own. Rather experts in second language teaching viewed writing as a means of recording speech and as a medium to teach lexical and grammatical features of a language (Brown, 2004).

During the 1970s and 80s language teachers believed that writing could be validly tested by an indirect test of writing such as cloze items, paraphrasing or sentence re-ordering, which could provide teachers practical ways to assess writing. Such indirect test items assess knowledge without authentic application, that is, they do not seem to have the conditions of construct validity. During the 90s however, those ideas 'have not only been defeated but also chased from the battlefield' (Hamp-Lyons, 1994; p.69).

Assigning direct testing tasks and assessment through t-unit count and analyzing the progression of ideas throughout the text proves a feasible and valid way of measuring writing. Unlike the test types without authentic application as mentioned above, such authentic applications are also more meaningful and thus more motivating for students. In addition to measuring the frequency of t-units, topical structure analysis (TSA), proposed by Lautamatti (1987), has been proven to be one of the effective methods to raise students' awareness of textual coherence and as a way of assessing written performances. According to Lautamatti (1987), a sentence has two main parts: a topic and a comment. The topic could be defined as a part telling what the sentence is about or we call it the main idea of a sentence; the comment refers to what is said about the topic (Liangprayoon, Chaya & Thep-ackraphong, 2013).

*Correspondence: Bilal Genç, Inonu University Education Faculty, bilal.genç@inonu.edu.tr

Almaden (2006) investigated the topical progression in paragraphs written by Filipino ESL students. She found that parallel progression was most frequently used in paragraphs, followed by extended and sequential progressions, with extended sequential progression least used. That parallel progression was most frequently used means that Filipino students ‘could write in the same pattern as do natives who are monolinguals’ (p.24) mainly as a result of English medium instruction.

The applicability of TSA analysis is not limited to only English written products but it also applies to the ones in other languages. In a study comparing 40 paragraphs selected from English and Spanish academic journals, Simpson (2000) found that English paragraphs tend to have a high use of internal coherence than Spanish paragraphs. She further argued that TSA is applicable to Spanish texts, which has a subject-verb-object structure but enjoys incredible flexibility in terms of word order, helped by the verbal inflections that indicate person and tense.

In another comparison study of text written two different native speaker groups, Dumanig et al. (2009) examined editorials published in a Filipino newspaper published in English and editorials in an American newspaper. They argue that American and Filipino editorial writers have a similar style in terms of topical progressions but Filipino writers tend to write longer and wordier clauses and sentences.

As seen in the previous studies researchers assigned their time to investigate the difference between written productions of different cultural groups. In most topical structure analysis studies we see comparisons of written productions of either students or other professionals from different linguistic backgrounds. Again in his study on written performance Alptekin compared the essays of two groups of Turkish students (Turkish and Turkish/English bilinguals) with those of American students. He found that there were significant differences in the use of progression types between the three groups of students.

In a recent study, however, Kılıç, Genç, and Bada (2016) analysed essays produced by 81 ELT students from three different universities in Turkey. This study revealed the writing tendencies of Turkish EFL learners in terms of parallel and sequential progression. In this study, however, the focus is on the differences between one group of Turkish EFL learners two written performances they produced when they were freshmen and when they were senior students.

This research design helped us see what kinds of changes in syntactic and lexical complexities alongside with topical structure analysis and discover the potential improvement between the two groups of papers.

METHOD

Research Design

This investigation was concerned generally to see how the written performances pre-service teachers of English differed throughout their undergraduate study; whether there was a significant improvement in their writing in terms of lexical and syntactic complexity and topical structure progression. Argumentative essays assigned to students serve as written documents; therefore, in this study we have conducted a qualitative research and applied content analysis which involves a systematic procedure for reviewing or evaluating documents—both printed and electronic (Yıldırım & Şimşek, 2011). To compare groups and enhance the validity of the findings we have also used t-test and the Wilcoxon test, which means that from a quantitative perspective we have counted the number of types and tokens, measured the length of clauses in terms of token numbers and compared the frequencies of parallel and sequential progressions.

Participants

The participants of the present study were 31 Turkish BA students majoring in English Language Teaching. The participants were in their first year of study when they wrote the first essays in May of 2014. In the senior year, in May 2017, the students wrote on the same topic once again. Following the completion of the 2016-2017 academic year all of the participants graduated from the department as English language teachers.

Instrument and Data Analysis

Only one instrument was utilized to collect data for this study. The participant student-teachers were assigned four different topics to write an argumentative essay on. The topics were as follows:

- What are the advantages and disadvantages of single-sex schools and mixed schools?
- Does the violence depicted in cartoons have a negative influence on young viewers between ages 3-5 in Turkey?
- What are the positive and negative aspects of homework?
- How has the world changed with the development of technology during the past 50 years?

The students were assigned 60 minutes to write their essays. Upon collecting the essays in the first step the researchers have counted the number of words and t-unit* in each essay. Then we have compared the frequencies of parallel and sequential progression.

Parallel Progression vs. Sequential Progression

When we see a semantically identical topic between a sentence and the succeeding one we label the situation as a case of parallel progression. Thus when a topic is repeated in the following sentences either in a pronominalized form or a synonym we talk about a parallel progression even though there may be difference between the two sentences in terms of number, polarity, and post-modifier that follow the head noun. In sequential progression, however, is different from the immediately preceding topic notwithstanding the fact that the following sentence may include derivations from the first sentence and repetition of part but not all of preceding topic (Schneider & Connor, 1991).

Two examples from Kroll (1994, p.131) given below illustrate the difference between parallel and sequential progression:

Sample 1: Parallel Progression

(1) Chocolates are a national craving. (2) Records show that they are sold in huge quantities -11.2 pounds per capita per year. (3) Designer chocolates often sell for nearly \$ 36/lb. (4) It is obvious that these candies are America's number one choice.

1. chocolates
2. they
3. Designer chocolates
4. these candies

Sample 2: Sequential Progression

(1) Computer interviews are used by market researchers to assess product demand. (2) Using these, many products are analysed. (3) For example, people may be asked for detergents.

1. Computer interviews
2. products

*A t-unit has been defined as the shortest grammatically allowable sentence. While a simple sentence and a complex sentence have one t-unit, a compound sentence has two t-units.

3. detergents

Research questions

We have tried to find an answer to the following questions in this study. The questions regarding the writing ability of student-teacher are remarkable because this will have implications for the teaching career.

- Do the writing skills of English pre-service teachers reveal improvement as a result of the training they get?
- Do the writing skills of English pre-service teachers reveal more lexical and syntactic complexity?
- Do the writing skills of English pre-service teachers reveal improvement in terms of progression types explained in the topical structure analysis method?

RESULTS AND DISCUSSION

In order to see whether there is any difference between the 2014 essays and 2017 essays in terms of type-token ratio (indicator of lexical complexity) and mean length of clauses (indicator of syntactic complexity), a series of parametric paired samples t-tests were run. Results of these tests can be seen in Table 1 below.

Table 1. Results for type-token ratio and mean length of clauses

| | Paired Dif | t | df | Sig. (2-tailed) |
|--|------------|-------|----|-----------------|
| | Mean | | | |
| Type-Token Ratio (Lexical Complexity) | -0.12 | -8.40 | 30 | .000* |
| Mean Length of Clause (Syntactic Complexity) | -2.4321 | -2.32 | 30 | .027* |

* $p < .05$.

Lexical Complexity in 2014 and 2017 Essays

As presented in Table 1, there was a significant difference in the scores for 2014 Essays ($M=0.39$, $SD=0.05$) and 2017 Essays ($M=0.51$, $SD=0.07$); $t(30)=-8.40$, $p = 0.000$. The mean token number in 2014 essays is 306.61, while the figure in 2017 essays is 197.16. The decrease in the mean token number was mainly due to the motivation for the essays; in 2014 the students wrote the essays as part of their writing class activities; in 2017, however, the researchers asked them to write an essay on the topic they wrote three years earlier. The decrease in the mean token number notwithstanding, the variety in the use of vocabulary increased from 0.39 in 2014 to 0.51 in 2017. This increase shows that during the three years following their first year in the department the participants have improved their vocabulary substantially.

Syntactic Complexity in 2014 and 2017 Essays

Table 1 shows that there was also a significant difference in the scores for 2014 Essays ($M=7.5612$, $SD=2.16$) and 2017 Essays ($M=9.9933$, $SD=7.27$); $t(30)=-2.32$, $p = 0.027$. Specifically, our results suggest that there is an increase of some 2.5 words in the mean length of clause between the two essay groups and the difference was found to be significant. Again as with the difference between numbers of the types and token between the two essay groups, the positive mean difference between 2017 essays and 2014 essays implies again an improvement in the writing skills of the participant group.

The quantitative analyses above imply a favourable situation both for teacher educator and pre-service

teachers. That the essays reveal improvement both in terms of lexical complexity and syntactic complexity suggests that the participants of the study have been improving their profile as prospective language teacher since language proficiency is considered as one of the most *sine quo non* component of language teacher profile in the literature on language teacher education.

Following the structural analysis of the essays, the researchers have investigated whether there is a qualitative improvement in the essays of the student-teachers. In line with the topical structural analysis as offered by Lautamatti (1987), the essays were analysed and contrasted in terms of parallel and sequential progression of ideas throughout the texts. Lautamatti's method of analyses has provided the researchers and language teachers to examine the coherence of text through a quantitative way.

In Table 2 below descriptive statistics for t-units and topic progression are given. As stated above 31 participants produced 31 essays on four different essay topics they were given.

Table 2. Descriptive Statistics for t-unit and topic progression in 2014 essays

| | N | Mean | Std. Deviation | Minimum | Maximum |
|------------------------|----|-------|----------------|---------|---------|
| Sequential Progression | 31 | 13,42 | 3,828 | 5 | 20 |
| Parallel Progression | 31 | 7,19 | 3,250 | 2 | 14 |

When we have a look at Table 2, we see that the mean number of t-units displaying sequential progression is 13,42, while the mean number of t-units with parallel progression is 7,19. In order to see whether this difference is significant or not, we applied a one sample t-test.

Since the data were skewed for one of the variables, a Wilcoxon Signed-Ranks Test was run as seen in Table 3 below and the output indicated that the number of t-units displaying sequential progression was statistically significantly higher than the number of t-units with parallel progression, $Z = -4,295$, $p < .000$.

Table 3. Wilcoxon Signed-Ranks Test Results for progression type in 2014 essays

| | Ranks | N | Mean Rank | Sum of Ranks | Z | P |
|-----------------|----------------|-----------------|-----------|--------------|--------|-------|
| SP2014 - PP2014 | Negative Ranks | 5 ^a | 5,80 | 29,00 | | |
| | Positive Ranks | 26 ^b | 17,96 | 467,00 | -4,295 | ,000* |
| | Ties | 0 ^c | | | | |
| | Total | 31 | | | | |

a. SP2014 < PP2014

b. SP2014 > PP2014

c. SP2014 = PP2014

* $p < .05$

Table 3 shows that the participants' essays in 2014 had severe defaults in terms of coherence. It is clear that the participants had difficulty in elaborating on the topic they initiated. As can be seen, the difference between the mean score of sequential progression t-units (13,42) and the mean score of parallel progression t-units (7,19) is significant.

Following the analysis of 2014 essays, the researchers went on to analyse the 2017 essays. Descriptive statistics for t-units and topic progression are given in Table 4 below.

Table 4. Descriptive Statistics for t-unit and topic progression in 2017 essays

| | N | Mean | Std. Deviation | Minimum | Maximum |
|------------------------|----|------|----------------|---------|---------|
| Sequential Progression | 31 | 9,03 | 3,665 | 3 | 17 |
| Parallel Progression | 31 | 3,58 | 2,446 | 0 | 12 |

As seen in Table 4 and the discussion above on lexical complexity both the number of tokens and t-units are less in 2017 essays than in 2014 essays. While the average number of sequential progression t-units is 9,03, the average number of parallel progression t-units is 3,58.

As with the 2014 essays the data was skewed for one of the variables, so a Wilcoxon Signed-Ranks Test was run as seen in Table 5 below and the output indicated that number of t-units displaying sequential progression was statistically significantly higher than the number of t-units with parallel progression, $Z = -4,527$, $p < .000$.

Table 5. Wilcoxon Signed-Ranks Test Results for progression type in 2017 essays

| | Ranks | N | Mean Rank | Sum of Ranks | Z | P |
|-----------------|----------------|-----------------|-----------|--------------|--------|-------|
| SP2017 - PP2017 | Negative Ranks | 1 ^a | 8,50 | 8,50 | -4,527 | ,000* |
| | Positive Ranks | 28 ^b | 15,23 | 426,50 | | |
| | Ties | 2 ^c | | | | |
| | Total | 31 | | | | |

a. SP2017 < PP2017

b. SP2017 > PP2017

c. SP2017 = PP2017

* $p < .05$

Having a look at the Wilcoxon signed rank test we see that there is a significant difference ($Z = -4,527$, $p < 0.001$) between scores given for SP2017 compared to PP2017. The mean score for SP2017 is 9,03 compared to 3,58 for PP2017. Therefore, in terms of topical progression, the participants' essays showed almost no improvement despite the three years they spent in their undergraduate study.

The differences in the findings prove that while on the one hand, the participants of the study have improved their knowledge of the structure of English significantly, they are still far from writing coherent paragraphs. In their study on the comparison of editorials of Filipino and American writers Dumanig et al. (2009) attributes the fact that American writers produce more coherent passages to the tendency of being direct in western culture. In our case, we, too, can attribute our participants' deviating from the main idea within one paragraph as stigma of oriental culture. Nevertheless, diagnosing the source of the problems is something with the bulk of the job to teach how to write more coherent passages.

CONCLUSION

Although reading and writing skills involve decoding a written material or encoding a message in written mode, there are some fundamental differences between these two skills. When you are reading passages, news articles, short stories, etc. you can look up words in a dictionary if your ignorance of some vocabulary gets in the way of your achieving an overall understanding. However, when writing an essay just looking up a dictionary to find the equivalent of the word which passes through your mind would not be the bulk of the job in your efforts to complete the main ideas you want to get across in your paper.

As our discussions suggest the bulk of the job in writing assignments is producing coherent paragraphs and essays; and assessing those writings which are produced in different exam types such diagnostics, formative, summative or proficiency exams.

In writing classes, students are generally taught how to revise their papers in terms of mechanics such as the use of punctuation marks, capitalization and also in terms of grammar. This study, however, has shown that even more proficient English language learners should be taught how to revise their papers in terms of discourse features. We believe Topical Structure Analysis is a helpful strategy through which English language learners revise their writings for coherence and see their own drawback.

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