

T.C.
AKDENIZ UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
ENGLISH LANGUAGE TEACHING



**ANALYSIS OF THEMATIC PATTERNS AND COHESION IN EFL
LEARNERS' ARGUMENTATIVE ESSAYS**

MASTER'S THESIS
Fatma Şeyma KOÇ

Antalya, 2018

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DOĐRULUK BEYANI

Yüksek lisans tezi olarak sunduĐum bu çalıřmayı, bilimsel ahlak ve geleneklere aykırı düřecek bir yol ve yardıma bařvurmaksızın yazdıĐımı, yararlandıĐım eserlerin kaynakçalarda gösterilenlerden oluřtuĐunu ve bu eserleri her kullanımında alıntı yaparak yararlandıĐımı belirtir; bunu onurumla doĐrularım. Tezimle ilgili yaptıĐım bu beyana aykırı bir durumun saptanması durumunda ortaya çıkacak tüm ahlaki ve hukuki sonuçlara katlanacaĐımı bildiririm.

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Fatma řeyma KOÇ

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İMZA

Başkan : Doç. Dr. Yonca Özkan

Çukurova Üniversitesi, Eğitim Fakültesi, Yabancı Diller Eğitimi Bölümü, İngiliz Dili Eğitimi Anabilim Dalı

Üye : Dr. Öğr. Üyesi Fatma Özlem Saka

Akdeniz Üniversitesi, Eğitim Fakültesi, Yabancı Diller Eğitimi Bölümü, İngiliz Dili Eğitimi Anabilim Dalı

Üye (Danışman) : Dr. Öğr. Üyesi Simla Course

Akdeniz Üniversitesi, Eğitim Fakültesi, Yabancı Diller Eğitimi Bölümü, İngiliz Dili Eğitimi Anabilim Dalı

YÜKSEK LİSANS TEZİNİN ADI: Analysis of Thematic Patterns and Cohesion in EFL Learners' Argumentative Essays

ONAY: Bu tez, Enstitü Yönetim Kurulunca belirlenen yukarıdaki jüri üyeleri tarafından uygun görülmüş ve Enstitü Yönetim Kurulunun tarihli ve sayılı kararıyla kabul edilmiştir.

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ABSTRACT

Analysis of Thematic Patterns and Cohesion in EFL Learners' Argumentative Essays

KOÇ, Fatma Şeyma

Master of Arts, Department of Foreign Language Education

Supervisor: Dr. Simla Course

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This study aimed to analyze the thematic patterns and cohesion of written corpus of argumentative essays of Turkish learners of English and native English speakers. The data written by Turkish students of English, studying at a Department of English Language Teaching, in a state university, and preparatory class students, in a private university, were collected during 2016-2017-spring term. The essays written by undergraduate native speakers of English were accessed from written corpus of LOCNESS. In the scope of the study, thirty essays written by undergraduate native speakers of English and thirty essays written by undergraduate Turkish learners of English were analyzed. Discourse analysis was used in order to analyze cohesion and thematic patterns i.e. the use of references, thematic patterns, conjunctions, ellipsis and substitution and lexical cohesion of students' essays. Among theme types, marked theme and unmarked theme structures were also examined. At the end of the study, similarities and differences in terms of cohesion and thematic pattern properties in essays created by native speakers of English and Turkish learners of English were found. It was found at the end of the study that thematic pattern and cohesive device use had a richer variety in native speaker essays. It was also determined in this study in what ways cohesion and thematic structure of essays written by native speakers were different than essays composed by Turkish learners of English.

Key Words: *Foreign Language Education, cohesion analysis, thematic pattern analysis, discourse analysis, argumentative essays*

ÖZET

İngilizceyi Yabancı Dil Olarak Öğrenenlerin Tartışmacı Yazımlarında Tematik Yapı ve Bağdaşıklık İncelemesi

KOÇ, Fatma Şeyma

Yüksek Lisans, Yabancı Diller Eğitimi Bölümü

Tez Danışmanı: Dr. Öğr. Üyesi Simla Course

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Araştırma, anadili Türkçe olup İngilizce konuşan öğrencilerin ve anadili İngilizce olan lisans öğrencilerinin bütüncelerden elde edilen tartışmacı metinlerinin bağdaşıklık ve tematik yapı açılarından incelenmesini hedeflemiştir. Araştırmanın verilerini, 2016-2017 bahar yarıyılında bir devlet üniversitesindeki anadili Türkçe olan İngilizce öğretmenliği bölümü ve özel bir üniversitedeki hazırlık sınıfında öğrenim gören öğrenciler tarafından yazılan metinler oluşturmaktadır. Anadili İngilizce olan lisans öğrencilerinin metinlerine ise LOCNESS bütüncesinden erişilmiştir. Araştırma kapsamında anadili İngilizce olan lisans öğrencilerince yazılmış olan otuz metin ve anadili Türkçe olan lisans öğrencilerince yazılmış olan otuz metin incelenmiş ve bu metinlerdeki bağdaşıklık ve tematik yapı araçlarının kullanımı karşılaştırılmıştır. Bağdaşıklık ve tematik yapı düzenini referanslar, tematik yapı, bağlaçlar, eksilti, değiştirim, ve sözcüksel bağdaşıklık gibi bağdaşıklık ve tematik yapı araçları bakımından analiz etmek için söylem çözümlemesi kullanılmıştır. İzlek biçimlerinden de belirtili izlek ve belirtisiz izlek yapıları araştırılmıştır. Çalışmanın sonunda anadili Türkçe olan İngilizce öğrencileri ile anadili İngilizce olan lisans öğrencilerince üretilen tartışmacı yazımlarındaki tematik yapı ve bağdaşıklık ilişkilerindeki benzerlikler ve farklılıklar ortaya konulmuştur. Çalışma sonucunda anadili İngilizce olan lisans öğrencilerinin metinlerinde bağdaşıklık ve tematik yapı araçları çeşitlilik göstermiştir. Ayrıca metnin tematik yapı ve bağdaşıklık yapısının anadili Türkçe olan İngilizce öğrencilerinin metinlerine nazaran hangi yönlerden farklılık gösterdiği saptanmıştır.

Anahtar Kelimeler: *Yabancı dil öğretimi, bağdaşıklık analizi, tematik yapı analizi, söylem çözümlemesi, tartışmacı metin*

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LIST OF ABBREVIATIONS

EFL: English as a Foreign Language

ESL: English as a Second Language

SFL: Systemic Functional Linguistics

LOCNESS: The Louvain Corpus of Native English Essays

L1: Native Language



CHAPTER I

INTRODUCTION

1.1.Introduction

In this chapter, first cohesion, discourse, discourse analysis, cohesive and structural devices of cohesion will be defined and then thematic progression patterns will be presented. Then, the importance of the analysis of cohesive devices and thematic progression patterns in textual analysis studies will be put forward. In the next part, the contribution of the analysis of texts written by Turkish undergraduate learners of English in teaching writing skills will be argued. The chapter will end with implications for further studies and some limitations to this study.

1.2. Background of the Study

Tangpermpoon (2008) puts forward that in comparison to reading, speaking, and listening skills, writing is the most challenging skill, as writers need to have considerably higher syntactic and lexical information in addition to conventions of organization in a foreign language to create a cohesive writing. There are a number of definitions of what constitutes favorable writing (Bloor & Bloor, 1995; Halliday & Matthiessen, 2014; Halliday & Hasan, 1976). According to Bloor and Bloor's (1995) definition, writers intend to interact with readers and actuate them to react to what they read in good writing. It is for this reason that while reading a text, readers think about what will come next in the weaving of a plot.

Therefore, meaning relations are investigated in written discourse analysis studies for the purpose of analyzing the writing skills of learners. Within this perspective it is proposed that linguistic analysis should not stay at sentence level, but rather analysis need to lean beyond sentence level studies (Çoban & Karadüz 2015). Written text analysis orientation has caused emergence of text linguistics that has a prevailing understanding of looking at a text as a whole beyond sentence level in discourse analysis studies (Keklik & Yılmaz, 2013). This phenomenon of looking at the text as a whole is defined as texture. According to Bloor and Bloor's (1995)

definition, “Texture is simply the quality of being a text rather than a set of unconnected bits of language” (p.84).

Texture is made up of the threads that hold the text together. Doing a good job during the weaving process of constructing a text helps to make it more coherent and easier to understand. There is no universal model of what constitutes a coherent text; each language (and each culture) has developed its own methods and writers will encounter cross-cultural interference when writing in a foreign language. Textual analysis provides a better understanding of the texture of a given text.

(Fontaine & Kodratoff, 2003, p.2)

According to Halliday and Matthiessen (2014) textual cohesion in English is made up of structural and cohesive devices. In structural organization, thematic structure is constructed by theme and rheme, which in English are typically represented by given and new information in a clause. On the other hand, cohesion is built by the use of conjunctions, reference, ellipsis, and lexical organization in a text.

To be able to analyze the texture of a text, cohesion and thematic pattern are usually investigated in discourse analysis. As McCarthy (1994) stated, “Discourse analysis is concerned with the study of the relationship between language and the contexts in which it is used” (p.5). In discourse analysis, keeping the textual elements together is closely related to the term cohesion. Halliday and Hasan (1976) argue that the main factor specifying if a line of sentences form a text relies on cohesion structure that forms a texture between clauses. According to Karatay (2010), a text is expected to have certain qualities in terms of linguistics so that a text consisting of content integrity, purpose, and main idea could be formed, and these linguistics categories are cohesion and thematic pattern.

The concept of cohesion is a semantic one; it refers to relations of meaning that exist within the text, and that define it as a text. Cohesion occurs when the

interpretation of an element in discourse is dependent on that of another. The one presupposes the other, in the sense that it cannot be effectively decoded except by recourse to it. When this happens, a relation of cohesion is set up, and the two elements the presupposing and the presupposed, are thereby at least potentially integrated into a text.

(Halliday & Hasan, 1976, p. 4)

To be able to comprehend how languages function, linguists investigate discourse and functional linguists, particularly, work on this subject (Bloor & Bloor, 1995). Systemic Functional Linguistics (SFL) is an approach developed by Michael Halliday to understand language. SFL has three theoretical functions that are ideational, interpersonal, and textual metafunctions (Halliday & Matthiessen, 2014). Interpersonal metafunction specifies a link between a listener and an interlocutor or a writer and a reader. Ideational metafunction describes how we represent experiences in language. The textual metafunction (mode) is related to forming an association between information in a previous and a later part of the text. Mode is created through choices in the theme and rheme system; that is, where a speaker or a writer decides to put new and given information in a sentence affects the mode of texts. Investigating language preferences can shed a light on how topic, interpersonal meanings, and information flow are carried out in various contexts.

Examining texts in terms of linguistics is useful in understanding the reasons for a text's being more influential than other texts in exchanging information and persuading. Thus, text analysis aids in understanding language use in various fields like science, business etc. (Bloor & Bloor, 1995).

Following categories of cohesion, functional grammar, and thematic progression patterns (Danes, 1974; Halliday & Hasan, 1976; Halliday, 1967), this study aims to analyze and compare cohesive features and thematic structure in argumentative writing constructed by Turkish undergraduate English majors, preparatory class students, and American undergraduate students.

1.3. Statement of the Problem

One of the most difficult issues in language learning is developing writing skills, and Turkish learners of English as a Foreign Language (EFL) have problems in creating cohesive essays (Dikilitaş, 2012; Kılıç, Genç & Bada, 2016). The act of constituting a cohesive text is realized in different ways for different languages and cultures (Fontaine & Kodratoff, 2003). According to Kaplan (1966), every language and culture has a unique paragraph structure, and learning a language is only possible when one complies with a language's logical structure. Similarly, as the text structure of Turkish does not overlap with English texts' construction, Turkish learners have trouble writing in English. Thus, Turkish learners of English have hardship in academic writing. Buckingham (2008) conducted a study with Turkish academics who speak English. According to the study, it was found that the hardships academics encountered in writing stemmed from low proficiency in English, the distinct structure of Turkish and English texts, and from a hardship of choosing a rich vocabulary variety, the latter two being elements of cohesion.

It is a prerequisite for a text to be cohesive and coherent to ensure a healthy communication. Therefore, it is crucial that they are part of language learning and that students' essays display good cohesion and thematic pattern qualities. As Karadeniz (2015) points out, cohesion and coherence are necessary elements in effective writing, and instruction for using cohesive devices is a crucial component in teaching of writing skills. Thus, analyzing students' essays in terms of cohesion can guide teachers to teach writing skills and determine ability of students to create written texts (Ülper, 2011). As Çoban and Karadüz (2015) argue, students' written work should not only be analyzed with regard to spelling and punctuation but also to the meaning it aims to communicate.

In studies related to this topic, grammatical and lexical cohesion and thematic progression in a variety of texts were compared (Alarcon & Morales, 2011; Hawes, 2010; Thomas, 1999; Wang, 2007; Yan, 2015). Cohesion and thematic pattern structures in essays of English as second and foreign language students were investigated (Belmonte & Hidalgo, 1998; North, 2005; Rosa, 2007; Witte & Faigley, 1981; Yunita, 2018; Zarepour, 2016). Thematic pattern structures in essays of

academics who speak English as a second and a foreign language were compared (Fontaine & Kodratoff, 2003; Mirzapour & Ahmadi, 2011; Weissberg, 1984; Wenyan, 2012). In these studies it was found that because of discrepancy in the use of cohesion devices, second or foreign language users had problems in written communication (for instance Belmonte & Hidalgo, 1998; Jalilifar, 2010). Nevertheless, a study analyzing cohesion and thematic pattern in an integrated approach in undergraduate Turkish learners of English students' essays had not been encountered in literature. With this study, it was aimed to specify difficulties Turkish learners of English encounter while writing English essays and identify points to be improved, and carry out studies accordingly.

1.4. Purpose of the Study and Research Questions

The problems Turkish learners of English encounter in writing texts (Elkılıç, 2012; Kesmez, 2015; Uysal, 2008) originate from either using cohesive structures of their own language while writing English or not understanding some English cohesive structures. After all, each language has its own way of achieving a cohesive and coherent text. Thus, the aim of this study is to determine the level of construction of cohesion and thematic pattern in argumentative writings of Turkish learners of English and native speakers of English. In line with this aim, the following research questions were inquired:

-What kinds of cohesive devices and thematic patterns are used in argumentative writings produced by undergraduate native speakers of English?

-What kinds of cohesive devices and thematic patterns are used in argumentative writings produced by undergraduate Turkish learners of English?

-What are the similarities and differences in terms of cohesion and the organization of thematic patterns in argumentative essays produced by undergraduate Turkish learners of English and undergraduate native speakers of English?

1.5. Significance of the Study

In this study, argumentative essays created by undergraduate Turkish learners of English and undergraduate native English speakers were compared, and differences between speakers of these two languages were determined. The results of this study indicated the ways in which academic writings' general properties in essays created by tertiary level English learners whose native language is Turkish differed from native speakers' essays. The findings will contribute to our understanding of student writing in EFL. Thus, the results will have implications on writing instruction in tertiary level regarding the use of cohesive devices. It is also aimed that in the light of the findings of this study, a positive contribution would be made to the writing skills of Turkish academics who produce research articles in English in that improving thematic pattern structure and cohesion in English writing would provide a better chance to be heard in the international community.

1.6. Limitations

The Turkish participants were only limited to two universities in this study. Also, only sixty essays were analysed in the scope of this study. Thus, a study with a larger sample size that has more variety of settings can be conducted in the future. Additionally, in this research essays written by the students of social studies were analysed. Similar studies can be done with the essays of students on positive sciences.

CHAPTER II

LITERATURE REVIEW

2.1. Introduction

In Chapter 2 the theoretical framework that formed the bases of this study is explained. First, the terms ‘cohesion’ and ‘thematic progression’ are explained. Then, Halliday and Hasan’s (1976) cohesion theories consisting of lexical cohesive devices, grammatical cohesive devices, theme and rheme notions of Halliday (1967), and thematic progression structures by Danes (1974) will be explained in detail. Afterwards, the studies examining the use of cohesive and structural devices on different genres including argumentative writing in EFL and ESL context with students from different levels, scholars and native speakers of English will be reviewed.

2.2. Cohesion, Coherence and Discourse

Discourse is “a speech or piece of writing about a particular, usually serious, subject” (Cambridge Dictionary, 2018). With discourse study, an awareness of “linguistic system” is gained and the way it becomes possible for speakers and writers to achieve and comprehend coherent content is understood (Bloor & Bloor, 1995). Discourse is both what text creators imply and what readers and hearers understand from it, and it serves a communicative purpose (Widdowson, 2007).

Johnstone (2008) explains that functional grammarians inquire how information is spread out across sets of sentences in discourses. Systemic functional grammar by Halliday examines syntactic structures in the field of discourse (1967). There are a number of explanations about how the place of information in a sentence affects the way readers interpret the message in texts. In some languages, in everyday conversation, people tend to point out familiar information first and then talk about new, unfamiliar topics, and hearers also await this form (Johnstone, 2008). Therefore, information distribution in a sentence is designed so that readers or speakers learn first about the entity being talked about and then comment about it.

Hawes (2015) states that to be able to understand how information is laid out in sentences and to be able to form structures for binding the elements together, cohesion and coherence are crucial aspects.

In relation to cohesion, Weissberg (1984) also refers to a term “bridging” that manifests readers’ ability to comprehend references in a text by means of given and new information sequence. If a reader has specialist knowledge about the text topic, the reader is more likely to understand the text better than a person who has little background knowledge about the issue in question. In this case, the less knowledgeable reader has to put more effort into making sense of the text by making effective bridging. In line with Weissberg’s bridging, Majdeddin (2010) argues that writers who are unable to associate their information with a previous part of the text tend to jump from one argument to another too suddenly. Therefore, language learners had better be warned about weaving information in a passage by making references to previous parts of text so as to compose a text in a linear order.

About weaving information in a text, Halliday and Hasan (1976) explain the importance of cohesion as the semantic relation of an element to another element in the text that is essential for interpreting it. Cohesion is a way of forming relations in discourse. It serves to tie different elements within a text together. Cohesion makes it possible to connect an element to a previously stated entity in a text. The act of relating the elements in discourse to one another is accomplished by thinking about meaning relations in a text. Also, beyond meaning relations, cohesion is formed by the interpretation of one element in relation to another (Halliday & Hasan, 1976). Coherence, on the other hand, is the logical organization of ideas, which forms textual unity (Meyer, 1987). Taking these theories into account, in this study the elements of cohesive writing in English will be discussed and then how they are used in EFL learning and teaching will be looked into.

2.3. Theme and Thematic Progression in English Writing

A number of explanations have been put forward in discourse analysis studies to shed a light on the reasons why it is essential to study the linguistic analysis of texts (Danes, 1974; Halliday & Matthiessen, 2014; McCabe, 1999; Wang, 2007).

Some of these studies investigate the role of thematic progression in creating a cohesive text (Ebrahimi & Ebrahimi, 2012; North, 2005; Rosa, 2007; Yunita, 2018). Other studies by a number of researchers (Belmonte & McCabe, 1998; Ho, 2009; Jing, 2015; Jingxia & Li, 2013; Weissberg, 1984) have proposed that instruction in thematic progression is an essential part of English language writing, and that it had better be a part of writing tutorials. Thematic progression shows syntactic subjects, and it illustrates a text's basic structure. However, whereas native speakers inherently know the thematic progression through extensive reading, non-native learners are exposed to these structures less. That is because even if they deal with complicated texts, they are less likely to pay close attention to various elements in a foreign language concurrently (Hawes, 2015).

Halliday (1976) constructed groundwork for the study of theme and rheme structure. The theme is the element in a clause, which acts as a branch to pin the following unfamiliar, new or additional information in a sentence. It is aimed to get readers ready for the upcoming message by forming a theme as a part of the clause. The remaining part of the clause; that is, the section in which the theme is expanded is called a rheme. The rheme functions as the unit encompassing the message of the sentence. In English language, a sentence is ordered by putting the theme first followed by the rheme. Thus, after emphasizing the thematic eminence, information is expanded.

About the act of putting information in the right place Wang (2007) argues that in a clause it is crucial, as the readers will be influenced by the first knowledge they encounter in a text, and the interpretation of the following clauses will be dependent upon the element that has been placed in the beginning of a clause. Therefore, 'given' information needs to be placed in theme position and 'new' information is to be in rheme in English language. Otherwise, readers cannot follow meanings in a text. Given and new information patterns are integral parts of texts in that they are helpful in guiding readers to make sense of information in texts (Yuchen, 2006. as cited in Jingxia & Li, 2013). Also, as Thomas (1999) points out thematic progression allows readers to keep up with a big portion of information in a long piece of text.

Organization of theme and rheme structure in a text may be due to two reasons. First, the text producer may assume the hearer to have common background knowledge about the topic; therefore, theme position is used to represent given information, and rheme position is occupied by new knowledge intended to convey to readers by setting the atmosphere by introducing the common ground of knowledge in theme initial position (Widdowson, 2007). Second, information is distributed in a way that the knowledge text producer intends to share with readers is put in theme position, and comment that text producer would like to distribute is unfolded in rheme. Thus, this form centers more upon the information deliverer's part and it is about what she or he would like to share with the intended audience (Widdowson, 2007).

Halliday and Matthiessen (2014) also hypothesize that by looking at the context in which the theme and rheme are found, theme and rheme division in a clause can be discovered. There are three environments that specify the thematic distribution in a clause. Firstly, in declarative clauses, when the theme is the subject in a clause, it is called an unmarked theme. The majority of our everyday conversation consists of opinions, our emotions, and us. Therefore, the most common type of unmarked theme is the first person pronoun *I* followed by the personal pronouns *you, we, he, she, it, they*; and the impersonal pronouns *it* and *there*.

Table 2. 1

Personal Pronoun as Unmarked Theme in Declarative Clauses

Theme	Rheme
I	give Pirrip as my father's family name, on the authority of his tombstone and my sister- Mrs Joe Gargery, who married the blacksmith.

(Dickens, 1996, p. 3)

An example of how theme and rheme division is carried out in declarative clauses with a personal pronoun as unmarked theme can be seen in the table 2.1 above.

Table 2. 2

Impersonal Pronoun as Unmarked Theme in Declarative Clauses

Theme	Rheme
There	was nothing in them but a piece of bread.

(Dickens, 1996, p. 4)

An example of how theme and rheme division is carried out in declarative clauses with an impersonal pronoun as unmarked theme can be seen in the table 2.2 above.

Clark and Haviland (1977) indicated that unmarked sentence sequences were labeled as “given and new contract” as it is usual for a text to have an unmarked sequence (as cited in Weissberg, 1984, p.488).

On the other hand, if the subject of a sentence is not the theme in a declarative clause, it is called a marked theme (Halliday & Matthiessen, 2014). Marked themes could be an adverbial group, *e.g. yesterday, quietly* or prepositional phrase, *e.g. in the morning, at home* or a complement that is a nominal group, *e.g. you I do not like*.

Table 2. 3

Adverbial Group as a Marked Theme in Declarative Clauses

Theme	Rheme
At such a time	I found out for certain, that this bleak place over-grown with nettles was the churchyard...

(Dickens, 1996, p. 3)

An example how an adverbial group constitutes a marked theme is illustrated in the table 2.3.

Table 2. 4

Nominal Group as a Marked Theme in Declarative Clauses

Theme	Rheme
You	young dog,' said the man licking his lips...

(Dickens, 1996, p. 5)

An example of a nominal group forming a marked theme is illustrated in the table 2.4 above.

Table 2. 5

Prepositional Phrase as a Marked Theme in Declarative Clauses

Theme	Rheme
On the edge of the river	I could faintly make out the only two black things...

(Dickens, 1996, p. 7)

In the Table 2.5 above a prepositional phrase forming a marked theme is illustrated.

Table 2. 6

Adverbial Group as a Marked Theme in Declarative Clauses

Theme	Rheme
Happily	I slipped away, and deposited that part of my conscience in my garret bedroom.

(Dickens, 1996, p. 15)

An example of an adverbial group constituting a marked theme is illustrated in the table 2.6 above.

Secondly, in interrogative clauses, WH- interrogative is the element that seeks to find the gap information in a clause; thus, it is always put in the beginning of the clause and the Theme consists of only WH- words. However, in yes/no interrogative clauses, Theme includes auxiliary verbs and subjects (Halliday & Matthiessen, 2014).

Table 2. 7

Theme in WH- Interrogative Clauses

	Theme	Rheme
In particular, it is not clear	why	the pirate spiders pluck the strings of the host spider's web.

(Cormier, 2017, para.14)

An instance of a theme in WH- Interrogative clauses is shown in the table 2.7 above.

Table 2. 8

Theme in Yes/No Interrogative Clauses

Theme 1	Theme 2	Rheme
But	did pirates	really "arr" and "avast" all the time?

(Than, 2017, para.2)

An instance of a theme in Yes/No Interrogative clauses is shown in the table 2.8 above.

Thirdly, in imperative clauses the verb is in the theme position, *e.g. don't do/ that*, but in *let's* structures only *let's* occupies the theme position, *e.g. let's/ watch television* (Halliday & Matthiessen, 2014).

Table 2. 9

Theme in Imperative Clauses

Theme	Rheme
Ask	no questions, and you'll be told no lies

(Dickens, 1996, p. 15)

An instance of theme in imperative clauses could be seen from the table 2.9 above.

Also, a number of researchers put forward other theme types (Herriman, 2011; Lu, 2013; McCabe, 1999). For instance, McCabe (1999) describes pragmatic themes, grammatical themes, extralinguistic themes and metatextual themes. Lu (2013) also defines an ellipted topical theme. Herriman (2011) was another researcher putting forward theme types, which are back themes, contextual themes, and new themes. However, a detailed description of these types of themes will not be given, as this categorization of themes will not be used within the scope of this study.

2.3.1. Textual, topical, and interpersonal themes

Halliday and Matthiessen (2014) explain that there are three components of a clause; that is, a process is consisted of the process itself, participants, and the circumstantial elements like time, manner, and cause. The theme includes only one of these factors, and it forms the theme and rheme boundary in a clause. So, it is called a topical theme.

On the other hand, textual themes consist of continuatives, conjunctions, and conjunctive adjuncts (Halliday & Matthiessen, 2014). Continuatives are words that show an action in discourse, such as a turn-taking word in speaking or an expression that imply moving to a new point in a dialogue. Some examples include *yes, well, and oh now*. Conjunctions are divided into expansion and projection. Conjunctive adjuncts are consisted of prepositional phrases or adverbial groups, which bond the sentence to preceding clauses (Halliday & Matthiessen, 2014).

Table 2. 10

Textual Theme, Interpersonal Theme, Topical Theme, Rheme

Textual Theme	Interpersonal Theme	Topical Theme	Rheme
Well but then	surely Jean wouldn't	the best idea	be to join in.

(Halliday & Matthiessen, 2014, p. 107)

Halliday and Matthiessen (2014) also classify interpersonal themes that are comprised of modal and comment adjuncts, vocatives, and finite verbal operators. In some instances, interpersonal and textual elements may precede a topical theme. In this case, multiple theme structure is formed as it is illustrated in the table 2.10.

2.3.2. Theme and Mood

Taking the selection of mood into account, the distinction of theme and rheme in the English clause is carried out. Theme is selected in bound, minor and elliptical clauses according to the mood of the clause (Halliday & Matthiessen, 2014).

2.3.3. Dependant Bound clauses

When the clause is finite, conjunctions such as “whether”, “because” that usually function as structural themes precede topical themes (Halliday & Matthiessen, 2014).

To illustrate;

Table 2. 11

Theme in Finite Bound Clauses

	Structural Theme	Topical Theme	Rheme
The child wondered	whether	pigs	have wings.

(Halliday &Matthiessen, 2014, p. 126)

Above we see an example of theme in finite bound clauses with conjunctions. The conjunction *whether* functions as structural theme, and *pigs* functions as topical theme. The remaining part of the clause is the rheme.

On the other hand, as it can be seen from the example below if a WH-component is at the beginning of the sentence, it forms the topical Theme. Whereas the WH-word ‘why’ functions as topical theme, the rest of the sentence is composed of rheme.

Table 2. 12

WH- as Topical Theme

	Theme	Rheme
I asked	<i>why</i>	<i>no one was around.</i>

(Halliday &Matthiessen, 2014, p. 127)

When the clause is infinite, a conjunction or a preposition functions as a structural theme, and a subject that is a topical theme succeeds it. Nevertheless, in general, infinite clauses include solely rheme.

Table 2. 13

Theme in Infinite Clauses

Structural	Topical Theme	Rheme
Theme		
With	all the doors	being locked we had no way in.

(Halliday & Matthiessen, 2014, p. 127)

In the example above, *with* is a structural theme, whereas *all the doors* is a topical theme, and *being locked we had no way in* is rheme.

2.3.4. Embedded clauses

Embedded clauses exist within nominal groups functioning as defining relative clauses, e.g. *who attended conference on molecular biology, the place we met*. They share the same thematic structure as dependent clauses, but they do not have the purpose of adding any supplement to thematic progression of discourse (Halliday & Matthiessen, 2014).

2.3.5. Thematic Progression

In the organization of theme and rheme structure, Danes (1974) proposes three, now widely accepted, progression types. He suggests that constant theme progression, linear progression, and derived theme progression are three main types of thematic networks in the organization of information structure in a text.

According to Danes (1974) there is the incidence of constant theme progression when a theme is repeated in the subsequent clauses. The same theme appears in a number of clauses by repeating or restating the main word. Below is an excerpt from a narration illustrating incidence of constant theme progression where the personal pronoun ‘I’ is repeated several times in following theme positions.

I/ waited about until it was noon, and I/ went upon ‘Change, and I/ saw fluey men

sitting there under the bills about shipping, whom I/ took to be great merchants, though I/ couldn't understand why/ they should all be out of spirits.

(Dickens, 1996, p. 215)

In linear progression, the rheme of a sentence constitutes the theme of the following sentences. Below is an excerpt from a users' guide illustrating how rheme of the first clause 'display technology' is repeated in the theme of the following clause as 'the display'.

"Your Kindle/ uses a high-resolution display technology called electronic paper. The display/ is reflective, which means you can read it clearly even in bright sunlight" (Kindle Oasis Users' Guide, p. 21). In this example, the rheme of first clause "the display" is taken as theme of following clause.

Lastly, derived theme progression encompasses "hyper themes" or "hyper rhemes" with multiple subcategories derived from the main theme (cited in Thomas, 1999, p.3). In the following example, taken from Danes (1974, p. 120), we can see how a theme is developed in terms of new ideas in a series of themes in subsequent clauses. As shown in the first example below, the theme "New Jersey" is derived into multiple themes in the following clauses. The themes "the coastal climate", "summers", "the leading industrial pollution", "the most important cities" and "vacation districts" are all examples of derived theme progression. As shown in the following example below, the theme "the reflector" is derived into multiple themes in the following clauses. The themes "the focal length of the reflector", "the back of the reflector", and "the reflector rack" are all examples of derived theme progression.

New Jersey is flat along the coast and southern portion; the northwestern region is mountainous. The coastal climate is mild, but there is considerable cold in the mountain areas during the winter months. Summers are fairly hot. The leading industrial production includes chemicals, processed food, coal, petroleum, metals and electrical equipment. The most important cities are Newark, Jersey City,

Paterson, Trenton, Camden. Vacation districts include Asbury Park, Lakewood, Cape May, and others.

(Danes, 1974, p. 120)

The reflector was protected from the weather by an outer window of 0.10 mm tedlar. The focal length of the reflector was 22.8 cm. The back of the reflector was protected from the weather with a black polyethylene cover stapled to the frame.

The reflector rack was mounted as ...

(Weissberg, 1984, p. 490)

Danes (1974) also defines a split rheme pattern in which rheme is developed in themes of a number of subsequent clauses. As shown in the example below, there is an instance of split rheme progression. That is, the rheme of the first clause “elementary substances and compounds” are split rhemes and they become themes of the following clauses as “an elementary substance” and “a compound”.

All substances can be divided into two classes: elementary substances and compounds. An elementary substance is a substance, which consists of atoms of only one kind... A-compound is a substance, which consists of atoms of two or more different kinds...

(Danes, 1974, p. 121)

Other than Danes (1974), a number of researchers have also put forward alternative thematic progression terms (Dubois, 1974; Hawes, 2015; McCabe, 1999; Mellos, 2011; Zhu, 1995 as cited in Yan, 2015). For example, McCabe (1999) defines new terms such as summative progression and split theme progression in organization of information structure. Dubois (1974) also argues that apart from Danes’ (1974) thematic progression patterns, there is also a simple gapped development to be used in textual analysis. Hawes (2015) also suggests three new thematic progression categories: constant gap progression, constant type progression,

and constant rheme progression. Four other basic thematic progression patterns that are proposed are parallel pattern, concentrated pattern, continuous pattern, and alternative pattern (Zhu, 1995 as cited in Yan, 2015). Mellos (2011) also put forward an alternative term for linear theme progression, which is called the zig-zag pattern of development.

Thematic progression types proposed by Danes (1974) were adopted in this study because this model was the most frequently used approach in the studies examining thematic patterns. However, there were not any studies regarding the analysis of Danes' (1974) progressions in the essays of Turkish EFL undergraduate students.

2.3.6. No Thematic Progression

Halliday and Matthiessen (2014) put forward that minor clauses do not have a mood or a transitivity pattern, and examples include calls, greetings etc. Therefore, no thematic structure is found in these clauses. On the other hand, in the categorization of theme and rheme pattern, themes that are not part of any thematic progressions are also categorized as unmotivated themes (Herriman, 2011). Also, themes that do not constitute progressions are named as peripheral themes (McCabe, 1999).

Weissberg (1984) describes that a sentence has a pattern when three successive sentences follow the same progression. When two or more sentence progressions from different patterns follow each other, a "mixed" texture is formed. Otherwise, if there are no such three consecutive sentence orders, the pattern is identified to have "no pattern". In this respect, Jingxia and Li (2013) argue that when there are some theme and rheme units that are not part of any progression, the linkage between sentences is not ensured.

Bloor and Bloor (1995) also define three kinds of problems with thematic progression use in essays: brand new theme, double theme (rheme), and empty rheme. If new information is positioned in theme, there is the instance of brand new theme. In double rheme, there are two rhemes. While one theme represents given

information, the other theme includes new information. The rheme is not capable of encompassing new information if there is a case of an empty rheme.

2.4. Theme and Thematic Progression in EFL/ESL Writing

A number of researchers have investigated theme and rheme structure in English in foreign and second language settings. It is crucial to investigate language learners' use of thematic structure and thematic progression patterns so as to identify learners' erroneous usages of theme and thematic progression and to attend to them (Wei, 2016). A number of studies have studied EFL and ESL learners' writings in terms of language proficiency, and disciplinary backgrounds.

In an EFL context, sophomore, junior, and senior students' writings were analyzed using Halliday's (2014) marked and unmarked theme theory (Ebrahimi & Ebrahimi, 2012). Students wrote essays taking pictorial stories as a base. At the end of the study, it was found that marked theme was made use of to a small extent. In addition, as the grade of students increased, there was an increase in students' use of marked theme as well.

Regarding Halliday's (2014) model for the theme types, the topical theme use in expository essays of Singaporean undergraduate students of English and Chinese origins at the tertiary level in Singapore was analyzed (Lu, 2013). The results showed that both groups had a high proportion of proper topical theme usage that was over 90 %. However, native English speakers had a higher percentage of proper topical theme usage than Chinese speakers. Thus, Chinese essays were in narrative style rather than expository because of improper topical themes.

In line with the same model, an ESL student's expository essay was analyzed in terms of theme and rheme and thematic progression (Rosa, 2007). The analysis results showed that the student overused constant progression. As a result, the information given in the rheme was not developed. The student did not expand on new information given in rhemes most of the time. Consequently, the text consisted of a number of disconnected ideas. In addition, the student had problems in using

existential “there” and impersonal “it” excessively; therefore, it would not be possible to show new information in the rheme position. Accordingly, Rosa (2007) argues that teachers tend to correct mistakes of students’ pronoun, and tense usage etc. that is only on clause level. Rather, teachers had better give feedback on discourse level by focusing on cohesion properties like thematic progression structures of students’ writing.

The use of marked theme, unmarked theme, and thematic progression in the recount texts written by eleventh grade vocational students were explored as well (Yunita, 2018). Six texts constituted the data of the study. According to the results, unmarked theme occurred more than the marked theme among low, middle, and high achiever groups; that is, unmarked themes occurred 131 times, and marked themes appeared 39 times. In addition, theme reiteration (constant theme) pattern occurred the most (%76.03), followed by zig zag (linear theme), and derived theme patterns. This finding was similar to Rosa (2007)’s findings in which constant progression pattern was the prevalent structure.

In another EFL context, Belmonte and Hidalgo (1998) also analyzed 25 essays written by Spanish learners of English in terms of thematic selection and progression. According to the study, the common problem in textual cohesion and thematic structure was overuse of constant progression, and this finding was in line with Yunita (2018) and Rosa’s (2007) findings.

Another researcher examined textual theme use in the essays written by students in an Open University history of science course during 2002-2003 academic years (North, 2005). Theme and rheme types as described in Halliday and Matthiessen (2014) were used for data analysis to discover if students from arts and science disciplinary backgrounds differed in theme choices. For this purpose, sixty-one essays for an assessed coursework were analyzed. The findings showed that there was a statistically significant difference between students from arts and science background in terms of the use of textual theme; that is, students from arts background used them to a greater extent. Both groups used topical themes similarly with subjects dominating theme position. However, the science students used more

existential themes, whereas arts students used more negative existential themes than science students.

Theme and rheme structures of essays written by non-native students in EFL and ESL settings were investigated by a number of researchers (Ebrahimi & Ebrahimi, 2012; Lu, 2013; North, 2005; Rosa, 2007; Yunita, 2018). The use of marked and unmarked themes, and thematic progression patterns among different disciplines and proficiency levels were analyzed in the essays of non-native students. The findings showed that marked theme was used minimally, whereas unmarked theme took place more frequently (Ebrahimi & Ebrahimi, 2012; Yunita, 2018). In addition, constant pattern was used the most in non-native EFL and ESL students' essays (Rosa, 2007; Yunita, 2018).

In order to come up with ways of avoiding composing incohesive texts, studies by a number of researchers also focused on investigating the relationship between an instruction on cohesion and its effect on the use of cohesive devices (Al-Jarf, 2001; Majdeddin, 2010; Tangkiengsirisin, 2010; Xin-hong, 2007). Some of the studies found positive correlations after instruction on cohesion (Majdeddin, 2010; Tangkiengsirisin, 2010; Xin-hong, 2007), whereas no significant difference was observed as to the use of cohesive devices in others (Al-Jarf, 2001; Xin-hong, 2007).

2.5. Theme and Thematic Progression in EFL/ESL Writing in comparison to Native Speaker Writing

Studies in theme and thematic progression patterns investigating EFL/ESL learners' essays in comparison to native speakers' aid in understanding how far language learners differ from native speakers. Therefore, insufficient or excessive uses of structures are identified and it becomes possible to address them (Wei, 2016). A number of researchers (Belmonte & Hidalgo, 1998; Green, Christopher, Lam & Mei, 2000; Hawes & Thomas, 1997; Jalilifar, 2010; Yang, Ramirez, & Harman, 2007) analyzed theme and thematic progression in EFL and ESL learners' writings.

In the Chinese EFL context, Chinese and native speakers' expository genre writings were analyzed in terms of topic fronting devices (for and concerning) and

logical connectors (moreover, furthermore, and besides) and it was aimed to find out if two groups of learners would differ in markedness choice (Green et al., 2000). The study made use of a non-native corpus of English learners of Chinese students' academic essays, and it was then compared to native speaker corpora. It appeared that Chinese writers were inclined more to put connectors under investigation in theme place; however, the results for topic fronting devices did not signify any representative findings, though Chinese writers again had instances of using these items more. It was found in the study that Chinese writers overused marked themes in subject position than native speakers. They violated traditional given and new information sequence in English by putting new information in theme position excessively; thus, the texts lacked coherence.

Similarly, in the Chinese EFL context, Liu and Tucker (2015) analyzed 30 Chinese and 30 English radio news texts in terms of types of themes and rhemes (Halliday & Matthiessen, 2014) and thematic progression theory (Danes, 1974). The results showed that, constant pattern and linear progression were used the most in both native and non-native texts. In addition, unmarked theme was used the most in the essays of both groups. In line with the findings of Green, Christopher, Lam and Mei (2000), the use of marked themes was more frequent in Chinese texts than English texts.

Yang, Ramrez, and Harman (2007) also contributed to the line of the research examining thematic pattern of an EFL student's essay in comparison to a native speaker's. A comparative study was carried out on the essays of a Chinese and an American student to analyze theme and rheme patterns. Whereas the native English speaker's essay showed a higher diversity in terms of markedness, the Chinese student opted for making use of textual elements like "and" as theme by repetition. In addition, the Chinese student used less cohesive devices; preferred to locate circumstantial components either at the beginning of sentences in a marked theme or at the end of existential clause. Nevertheless, as in the Chinese student's essay circumstantial components were placed in marked theme; the student's ability to form linear progression in texture was low. On the other hand, the native English speaker put circumstantial components in the rheme position, used more varied thematic progression, and cohesive elements were more prevalent. In line with the

findings of Green et al. (2000) and Liu and Tucker's (2005) studies, the Chinese student tended to place new information in the theme position contrary to usual practice of putting new information in rheme position or giving extra details about the concepts described in theme. On the other hand, native English speaker's use of themes was to the point and detailed, and made it possible for the writer to provide new information in rheme. Both students adopted repetition of the same words and similar key words about the topic. However, the Chinese student's essay did not have such a rich variety of lexical chains and structural patterns as the native speaker. Whereas the Chinese student did not utilize linear progression as much, the English-speaking student's essay showed a cohesive text linking in the paragraphs using a cohesive web. Therefore, the Chinese student adopted cohesive tools like conjunctive adverbs but did not adopt the linear progression pattern. As a result, there was no obvious pattern in the essay of a Chinese student when the theme of a clause was not dependent on rheme of preceding clauses.

In another ESL context, a hundred lower intermediate to advanced level Malaysian ESL learners' of English essays were examined in terms of theme types and thematic progression structures and they were then compared to the Sun and the Times articles (Hawes & Thomas, 1997). Language learners at British Council Language Centre wrote eighty essays, and students majoring in English Language and Literature wrote twenty of them. The findings illustrated that the Times had 30% more multiple themes than the Sun, and it had a more scholarly voice. However, contrary to their expectations, the Sun had 25 % more marked themes than the Times. The Sun was considered to have less academic quality because of its simplicity in structure to appeal to a wider audience, and use of marked themes was associated with an academic quality. Additionally, "The Times" had more derived theme pattern frequency than the Sun, whereas "The Sun" had more constant progression than the Times. Also, advanced learners made use of multiple themes and derived themes more than lower intermediate group. Also, advanced learners' writings had less constant progression than lower intermediate learners. As to marked and unmarked themes, advanced students used a higher number of marked themes than lower intermediate students. This finding was in contrast to Green et al.'s (2000) findings that showed an inclination for higher proficiency level learners and native speakers to have less marked themes than lower proficiency group.

Jalilifar (2010) also conducted a study to examine thematic structure of essays in an EFL setting. Essays written by Iranian EFL students majoring in English language translation and literature were examined in order to determine if there was a relationship between language proficiency and thematic structure use. For this purpose, the procedure of the study included students narrating pictorial stories. The students' writings then were compared to a native speaker's essay. The results of the study showed that students mostly made use of textual themes, and the native speaker utilized them more. Also, an inverse connection was found between the proficiency level and textual theme use. Also, structural adjuncts were the most utilized textual theme type. In addition, simple topical themes were the mostly used thematic structure among lower proficiency learners, whereas textual topical multiple themes were mostly used type by higher proficiency learners. As it was the case with Hawes and Thomas' (1997) findings, there was an inverse relationship between proficiency level and the number of simple themes. Also, the number of unmarked themes was higher than marked themes in all essays. As opposed to Green et al. (2000), Liu and Tucker (2015) and Yang et al.'s (2007) findings, there was no difference as to markedness in native and nonnative student's writings. Constant pattern was also used more than linear pattern in all writings. Furthermore, a significant difference was found in the use of linear and split rheme progression and proficiency level.

As reviewed above, the studies conducted in the EFL and ESL writings in comparison to native speakers' essays showed that non-native students' essays deviated from native speakers' essays in the use of theme and thematic progression patterns. For instance, the results showed that non-native students of Chinese background used more marked themes than native speakers (Green et al., 2000; Liu & Tucker, 2015; Yang, Ramirez, & Harman, 2007). In addition, the findings showed that both native and non-native students used the constant pattern the most (Jalilifar, 2010; Liu & Tucker, 2015), whereas in other studies no difference could be found between native and non-native students' essays in terms of marked and unmarked theme use (Yang et al., 2007). Also, Yang et al. (2007)'s study showed that a native student's essay had a higher number of linear progression pattern than a non-native student's essay. In Jalilifar's (2010) study the more proficient learners tended to use

less textual themes than the native speaker. Also, Hawes and Thomas' (1997) study showed that more proficient learners used more marked themes, more derived progression pattern, and less constant progression pattern than the lower proficiency learners.

2.6. Theme and Thematic Progression in English Research Articles by Native and Non-Native Scholars

A comparison between native speakers of English and non-native scholars in the use of thematic progression was implemented on medical papers written by Chinese and English speakers for the purpose of investigating impact of nominalization in their papers (Wenyan, 2012). The data consisted of discussion sections of medical papers published in some journals. According to the results, both Chinese and native English writers made use of the simple linear and the constant thematic progression in their writings; however, the linear thematic progression was more frequent among two groups, and as it was also the case in Yang, et al.'s (2007) study, native English writers used the simple linear progression pattern more than EFL writers.

In order to figure out thematic progression patterns of papers written by English and French scholars, two kinds of corpora: an Anglophone and a Francophone corpus were investigated (Fontaine and Kodratoff, 2003). Introduction parts of scientific papers were investigated through an identification of thematic progression patterns and making a comparison between two data sources. The most commonly used thematic progression type in both corpora was linear thematic progression, followed by constant theme progression. As opposed to the findings of this study, Liu and Tucker (2015) and Jalilifar (2010) found that constant progression was used more than linear pattern both in native and non-native speakers' essays. However, Anglophone writers utilized constant theme progression more. In addition, derived theme progression was used to nearly the same extent by both sides. Furthermore, breakdowns (ruptures) in progression patterns occurred in Anglophone corpus at a lower degree than Francophone corpus, to the degree of 3% and 12% respectively. Breakdowns or "ruptures" following one after another to a great extent were observed in Francophone corpus. In Anglophone corpus, ruptures were

succeeded by linear progression structure, implying that it is utilized as a way of exposing new information.

Weissberg (1984) had a similar thematic progression pattern to Fontaine and Kodratoff's (2003) study in the analysis of agriculture, biology, and engineering experimental research reports as a part of a scientific writing course for graduate ESL students. It was found that in line with Fontaine and Kodratoff's (2003) that the linear pattern was the most prevalent pattern in both native and non-native speakers' essays. However, as opposed to findings of Fontaine and Kodratoff (2003), native speakers used more constant theme progression than non-native speakers in their texts. In addition, constant theme progression was used the most, followed by mixed and hyper-theme patterns, whereas the linear progression rarely occurred.

Jalilifar (2010) also analyzed sixteen journals from an international journal, and a local journal between the years 2002-2007. The articles were analyzed in terms of Halliday's (1985) classification of themes and Danes' (1974) thematic progression models. The results showed that the most of the multiple and topical themes were unmarked in both journals. This finding was consistent with Liu and Tucker's (2015) and Jalilifar's (2010) study in which both native and non-native students made use of unmarked theme more than marked theme in their essays. Additionally, both journals had a higher number of marked themes in results and discussion sections, especially in international articles. Also, in line with Fontaine and Kodratoff's (2003) study, linear theme was used more than constant theme in both local and international journals. However, linear and constant progression was used more in ELT articles; thus, these sections were more elaborate and extensive. Also, derived theme and split rheme patterns were used rarely.

In this section, studies investigating theme and thematic progression in native and non-native scholars' articles were reviewed. The results of the studies showed that native scholars used linear theme progression more than ESL writers (Jalilifar, 2010; Wenyan, 2012; Yang et al., 2007). However, contrary to these findings, in Fontaine and Kodratoff's (2003) and Weissberg's (1984) studies non-native scholars made use of linear progression more than native scholars. In addition, both native

and non-native students made use of unmarked theme more than marked theme (Jalilifar, 2010; Liu & Tucker, 2015).

2.7. Theme and Thematic Progression Patterns in Different Genres

It is argued that if genre of texts is the same, they are bound to have similar thematic progression patterns as well (Wang, 2001 as cited in Shieh & Lin, 2011). Similarly, Wang (2007) argues that thematic progression patterns vary according to genre. For instance, in a narrative text, theme is repeated in following clauses. However, linkages from rheme of previous sentences to subsequent themes create a dynamic impact in an argumentative text.

Taking this hypothesis into account, Yan (2015) analyzed college exams in China in terms of theme and thematic progression patterns. The data of the study consisted of 22 sample essays of CET-4. The aim of the study was to show that each genre had different requirements in everyday writing. Argumentative, expository and letters were the genres of the papers analyzed. According to results of study, argumentative and expository writings utilized more thematic progression patterns than letters, and it was attributed to the fact that these types of essays had better use of more elaborate and cohesive language so as to convince readers of their point. On the other hand, letters aimed to make it easy for readers to comprehend the ideas; therefore, not so much thematic progression was needed.

Similarly, derived progression and split-rheme patterns were also claimed to be found in expository and argumentative texts (Lu & Zhang, 2009 as cited in Shieh & Lin, 2011). Tan and San, on the other hand, found that in expository essays linear and derived thematic progression were used the most, followed by the constant and concentrative patterns in expository essays (Shieh & Lin, 2011). However, in another study, literary texts were found to have a more complex thematic structure than the other genres (Li & Fan, 2008 as cited in Shieh & Lin, 2011).

The effect of genre on thematic progression was analyzed in another study, and it was found that linear progression was used the most in scientific texts, whereas constant progression was used the most in travel manuals. Similarly,

narrative essays were found to have the constant thematic progression pattern the most (Zhang & Wang, 2001; cited in Shieh & Lin, 2011).

Also, the relation between text type and thematic networks in a scientific research article and a popular scientific text was examined (Thomas, 1999). Because of the nature of a research article, descriptive sentences could be found in the methods and results sections. As readers of a research article are supposed to have a shared knowledge on the topic, themes did not necessarily draw from preceding rhemes. Thus, rather than a linear progression pattern, these type of texts tended to have a constant structure as themes carried this shared knowledge throughout texts. On the contrary, popular scientific texts aimed to inform the reader, as there could be little shared knowledge. Therefore, a linear progression pattern was utilized so as to describe readers the process of a scientific situation. Furthermore, Thomas (1999) explained linking text type to thematic progression and explained further that genres affected texture structure. For instance, in popular scientific articles the working procedure of some item was described to unspecialized readership; and linear progression pattern was the best tool for this aim. Similarly, general science magazines utilized a simple linear pattern while aiming at appealing to unspecialized readers because not too much specialized information was given. However, linear pattern was used as a way of maximizing mutual knowledge between readers and the writers. Conversely, in research articles linear pattern was not common as argumentations as explanations were not characteristics of this genre. Rather, it was aimed in research articles to inform readers. As to shared knowledge, there was plenty, so the readers were specialized enough to follow the information flow in the text; thus, constant progression pattern was suitable for this purpose as the writer had no necessity to draw information from preceding rhemes to provide given or new information.

2.8. Theme and Thematic Progression in Argumentative Articles

In an Iranian EFL setting, theme and thematic progression in argumentative articles produced by three different groups of writers were analyzed in terms of Halliday's (2014) theme and rheme patterns and Danes' (1974) thematic progression structures: Iranian EFL BA students majoring in English Literature, argumentative

texts by MA students at ELT department and published research articles in the field of applied linguistics (Jalilifar, Alipour & Rabiee, 2017). Theme types and thematic progression patterns in argumentative essays of undergraduate and graduate students and in the introductory sections of research articles were examined. Twenty-eight undergraduate students' essays, thirty-nine masters' degree students' essays, and forty-four research articles were taken for the analysis. According to the results, no statistically significant difference was found between undergraduate and graduate student essays in terms of theme types. However, graduate students used more unmarked themes than undergraduate students, and in both undergraduate and graduate essays unmarked themes were used more than marked themes. Also, research article writers utilized both marked and unmarked themes to a similar proportion. As to thematic progression, constant pattern was used the most, followed by simple linear, split rheme, and split theme progression in all three groups. Also, in terms of thematic progression there was no statistically significant difference between undergraduate and graduate students' essays. Nevertheless, the use of thematic progression was higher in MA students' texts than BA students' writings. Conversely, there was a significant difference between graduate students essays and research article in terms of thematic progression. That is, the use of thematic progression patterns was higher in MA students' texts compared to research articles.

Argumentative essays written by EFL speakers of Indonesian senior high school level students were also looked at dividing them into low, middle, and high achiever groups (Rakhman, 2013). The data were collected from nine students' essays, and the findings showed that constant theme progression was mostly used, followed by simple linear pattern and derived theme progression in all three groups. Jalilifar, Alipour, and Rabiee (2017) also found the same picture as to the most frequent types of thematic progression. In argumentative writing, simple linear progression was the expected structure as it allowed the information to be organized to achieve its purpose (Nwogu & Bloor, 1991 as cited in Rakhman, 2013). However, there were only two students from high achievers level who used linear progression more in their writings; thus, their essays followed the desired thematic structure of an argumentative essay.

On the other hand, with the aim of identifying the mostly used thematic progression patterns and diagnosing any probable misuse of thematic progression patterns, an argumentative essay by a sophomore Chinese ESL student majoring in Politics was analyzed (Wang, 2007). The results showed that the student used constant progression too much; thus, rhemes were not progressed in the following clauses. Jalilifar et al. (2017), and Rakhman (2013) also found that constant progression was the mostly used type by language learners. Also, there was no topic sentence between second and third paragraph so as to link themes to a previously stated rheme in preceding paragraph. In addition, brand new themes appeared two times, an empty rheme appeared once, and there was no instance of double rheme in her essay. Wang (2007) suggests that in writing courses teachers had better teach theme-rheme, and thematic progression patterns to raise students' awareness to help students learn how to organize information in a text by properly arranging given and new information in theme and rheme positions.

Among researchers who resorted to the investigation of students' texts by compiling data through classroom assignments, Soleymanzadeh and Gholami (2014) investigated argumentative essays of Iranian upper-intermediate undergraduate EFL learners studying at the department of English language and literature in terms of thematic progression patterns. Students wrote essays in response to an IELTS preparation assignment in a writing course. At the end of the analysis phase, the findings demonstrated that students overused constant progression in their argumentative texts. This finding supported the previous findings in the literature (Jalilifar, et al., 2017; Rakhman, 2013; Wang, 2007).

In the analysis of thematic progression patterns, researchers also utilized written corpus in online databases in some studies. For instance, Herriman (2011) analyzed Swedish advanced learners' argumentative writings and compared them to LOCNESS corpus of native speaker essays. It was found that linear progression was the most frequently used type by both groups. This finding was in contrast to Jalilifar et al. (2017), Soleymanzadeh and Gholami (2014), Rakhman (2013), and Wang's (2007) findings, which showed that constant progression was the prevalent structure among EFL learners. Linear and constant progressions and back and contextual themes were more dominant in non-native students' writings. However, summative

and split theme and rheme progressions were more prevalent in native speakers' essays.

Researchers also utilized a corpus of argumentative articles taken from English newspapers, journals and websites to analyze the use of markedness in the argumentative genre (Nan & Xiaomo, 2008 as cited in Jingxia & Li, 2013). The analysis results showed that the majority of themes were unmarked themes, unlike descriptive and narrative genres in which marked theme was the prevalent structure in essays.

In this part about theme, rheme, and thematic progression, the studies illustrating kinds of themes and thematic patterns were reviewed (Danes, 1976; Halliday & Matthiessen, 2014). A number of studies on theme and thematic progression were carried out on essays written by EFL/ ESL students, scholars, and native speakers (Herriman, 2011; Jalilifar, 2010; Nan & Xiaomo; 2008; Rakhman, 2013; Soleymanzadeh & Gholami, 2014; Wang, 2007; Yunita, 2018). In addition, comparative studies with EFL and ESL students, scholars, and native speakers were discussed with the purpose of illustrating in which aspects non-native learners' essays deviate from native speakers' essays in the use of theme and thematic progression patterns (Fontaine & Kodratoff, 2003; Jalilifar, 2010; Weissberg, 1984; Wenyan, 2012). It was found in these studies that in the argumentative essays written by secondary, undergraduate, graduate level learners and scholars, the use of constant theme progression was the prevalent pattern. However, as the proficiency level got higher, the use of linear progression patterns increased (Herriman, 2011; Jalilifar et al., 2017; Rakhman, 2013; Soleymanzadeh & Gholami, 2014; Wang, 2007). Also, some studies have been conducted to understand if the use of theme and thematic progression in students' essays could be improved with direct instruction (Ho, 2009; Jing, 2015; Jingxia & Li, 2013; Weissberg, 1984).

2.9. Cohesion in English Writing

Halliday and Hasan (1976) point out that cohesion in a text is formed by means of grammatical and lexical cohesion relations. The types of grammatical

cohesion include reference, substitution, ellipsis, and conjunctions. On the other hand, lexical cohesion is composed of the lexical categories such as repetition, synonym, antonym, superordinate, texture, and collocation.

2.9.1. Reference

According to Halliday and Matthiessen (2014), reference builds cohesion by associating the elements in different parts of texts to one another. Referential chains are composed within the text using reference items. Thus, reference contributes to cohesion by establishing connections between referents.

Halliday and Matthiessen (2014) describe three main reference types: anaphoric, cataphoric, and exophoric reference. If lexical items refer backwards to a previously mentioned element in a text, anaphoric reference is used. The item that is referred to in anaphoric reference is called the “antecedent”.

“**Barn owls** keep **their** acute sense of hearing into old age, scientists have discovered” (Briggs, 2017, para.1).

“A well-known way of measuring the age of a tree is by counting **the rings** in **its** trunk: one ring per year of growth” (Chesterton, 2017, para.4).

“**Mrs. Dalloway** said **she** would buy the flowers **herself**”(Woolf, 1925, p. 5).

In the examples above, “its” refer to “the tree”, and “their” refers to “barns owls”, and “she” and “herself” refer to “Mrs. Dalloway” that are mentioned in an earlier part of the text and are all illustrations of anaphoric reference.

When a word in a text refers forward to another word that takes place in the later parts of the text, the reference used is cataphoric reference. In the example below, “she” refers to “Clarissa” that appears in a subsequent part of the sentence. Thus, “she” is a cataphoric reference for “Clarissa” in this instance.

“How much **she** wanted it- that people should look pleased as **she** came in, **Clarissa** thought and... “(Woolf, 1925, p. 12).

Exophoric reference refers to information that is outside the text but can be recoverable from the context. Below is an example of a description of a London setting, and there are a number of exophoric references that imply a shared knowledge between the writer and the readers. That is, clauses such as, “the Park”, “the Government buildings” are illustrations of exophoric reference, as there are no instance of a mention of these in previous or later parts of the text.

“But how strange, on entering **the Park, the silence; the mist; the hum; the slow-swimming happy ducks; the pouched birds** waddling; and who should be coming along with his back against **the Government buildings**” (Woolf, 1925, p. 7).

Halliday and Matthiessen (2014) also put forward that there are two types of reference expressions, which are co-reference and comparative reference. Under co-reference, personal and demonstrative pronouns are included. Comparative references are divided into two main types. General references are comparative adverbs *similar* and *other*, which symbolize a general perspective, whereas specific references are comparative adverbs like *more* and *fewer* that are more specific and narrower in scope.

Bloor and Bloor (1995) also mention three kinds of references; that is, the identities previously mentioned in a text may take the form of a pronominal, demonstrative or a comparative reference.

“Another year, another iPhone, except **this** time there are three of **them**. The iPhone 8 is **the first** out of the gate, but it’s overshadowed by the iPhone X looming in the wings” (Gibbs, 2017, para.1).

“The iPhone 8 is fractions of a millimetre **larger** in every direction than the iPhone 7. **It’s** also 10g **heavier** than the iPhone 7” (Gibbs, 2017, para.3).

As shown in the examples above, “this” is an instance of demonstrative reference. Whereas “them”, and “it” are personal references, “the first”, “larger”, and “heavier” are comparative references.

In the tables 2.14, 2.15, and 2.16 below, the classification categories for the personal, demonstrative, and comparative are illustrated.

Table 2. 14

Personal Reference

Semantic Category	Existential	Possessive
Grammatical Function	Head	Modifier
Class	Noun (Pronoun)	Determiner
	I	
	You me	mine my
	We us	yours your
	He him	ours our
	She her	his his
	They them	hers her
	it	theirs their
	one	(its) it's one's

(Halliday & Matthiessen, 2014, p. 38)

In the table 2.14 above, the classification categories for personal references are illustrated.

Table 2. 15

Demonstrative Reference

Semantic Category	Selective	Non-selective	
Grammatical Function	Modifier/ head	Adjunct	Modifier
Class	Determiner	Adverb	Determiner
Proximity			
Near	this these	here (now)	the
Far	that those	there then	
Neutral			

(Halliday & Matthiessen, 2014, p. 38)

In the table 2.15 above, the classification categories for demonstrative references are illustrated.

Table 2. 16

Comparative Reference

Grammatical Function	Modifier	Submodifier/ Adjunct
Class	adjective	adverb
General comparison:		
Identity	Same identical equal	Identically
General similarity	Similar additional	Similarly likewise So such
Difference (ie non-identity or similarity)	Other different else	Differently otherwise
Particular comparison:	Better, more etc (comparative adjectives and quantifiers)	So more less equally

(Halliday & Matthiessen, 2014, p. 39)

The classification categories for the comparative references are illustrated in the table 2.16 above.

2.9.2. Substitution

According to Halliday and Matthiessen (2014), the substitution of one item by another helps to form cohesion by excluding some parts of a clause when it can be inferred from a previous part of a text. Halliday and Hasan (1976) explain that substitution is replacing nouns, verbs, and clausal phrases with *one*, *do*, and, *so* respectively:

“As for the other experiences, the solitary **ones**, which people go through alone, in their bedrooms, in their offices” (Woolf, 1925, p. 93).

In the example above, “ones” refer to “experiences”, and it is an example of nominal substitution.

“She made old Joseph tell her the names of the stars, which he liked **doing** very seriously” (Woolf, 1925, p. 41).

In this example, the verbal “doing” refers to “telling the names of the stars”, and it is an example of a verbal substitution.

“She would have accepted him still, perhaps, if he had been less absurd. Sally thought **so**” (Woolf, 1925, p.70).

Here, “so” is a clausal substitution, and it refers to “accepting him if he had been less absurd”. Instead of repeating the whole clause, the writer makes use of a clausal substitution at this instance.

Dyson became the latest manufacturer to hop aboard the battery-powered bandwagon this week, revealing a £2.5bn investment plan to produce an electric vehicle by 2020. In doing **so**, British inventor Sir James Dyson and his vacuum cleaner-making firm, raised eyebrows across the auto industry.

(West, 2017, para.1-2)

An example of clausal substitution can be found in the above text, where “so” points to the whole clause “revealing a £2.5bn investment plan to produce an electric vehicle by 2020”. Therefore, it is an illustration of clausal substitution as well.

2.9.3. Ellipsis

According to Halliday and Matthiessen (2014), the grammatical cohesion device, ellipsis, helps to form cohesion by making it possible to leave out some parts of a clause inferable from the previous items in a text. Halliday and Hasan (1976) illustrate that ellipsis includes leaving a noun, verbal or clausal phrase aside as the meaning of the sentence stays intact by referring to information in an earlier part of the text, and these ellipsis types are called nominal ellipsis, verbal ellipsis, and clausal ellipsis respectively.

“After making zany comedies, Woody Allen turned his attention to more serious subjects. Of all his films Interiors is the most intense, but necessarily not the best” (Salkie, 1995, p. 58). In the example, “film” is omitted after the phrases “the most intense”, and “the best”. Therefore, the shortened forms represent nominal ellipsis, while the meaning of the sentences remains the same.

“Other domestic broils came at the same time to increase my chagrin. Mademe Le Vasseur, while making me the finest compliments in the world, alienated from me her daughter as much as she possibly could” (Salkie, 1995, p. 58).

In the example, the writer omitted the verb “alienated” after the word “could”. Thus, there is the instance of verbal ellipsis.

“‘I am sure we will find your mother,’ said the man with the searchlight, ‘But God only knows where’” (Salkie, 1995, p. 60).

In the example above, “find your mother” is omitted after the word “where”. Thus, it is an instance of a clausal ellipsis.

Halliday and Matthiessen (2014) also define two ellipsis types, which are

anaphoric, and exophoric ellipsis. In anaphoric ellipsis information in a part of clause can sometimes be assumed from preceding context. On the other hand, when the clause has information recoverable from context or the reader and writer have shared knowledge, exophoric ellipsis is found in discourse. In that case, there is no incidence of theme, as theme is represented in the ellipated part of the clause. Rather, the clause consists of only rheme that is the remaining part, e.g. the short form “*Hungry?*” can be understood by the other person, as “*Are you hungry?*” These clauses have a thematic structure, but they are consisted of rheme only.

2.9.4. Conjunction

Halliday and Matthiessen (2014) put forward types of conjunctive adjuncts that are classified into elaboration, extension, and enhancement. They argue that the use of conjunctions helps to develop cohesion in a text by connecting the whole clause or the combination of clauses to one another.

Halliday and Matthiessen (2014) describe three conjunctive adjuncts types. Elaboration is defined as describing or clarifying an opinion farther. Extension is uniting two individual but connected concept or opinions. Enhancement is adding more facts such as condition, time, place, and cause. Halliday and Hasan (1976) also define categories for conjunction types that contribute to cohesion in a discourse. Additive conjunctions include positive *and, also, in addition* etc., and negative *nor* which demonstrate agglutination. Causal conjunctions include the sub-types general, specific, reason, and purpose specifying ones that are related to. Temporal conjunctions demonstrate the time wise relations in textual discourse. Adversative conjunctions are *but, yet, on the other hand, however,* etc. that indicate contrast.

Table 2. 17

Conjunctive adjuncts

	Type	Meaning	Examples
I Elaboration	appositive	‘i.e., e.g.’	that is, in other words, for instance
	corrective	‘rather’	or rather, at least, to be precise
	dismissive	‘in any case’	in any case, anyway, leaving that aside
	summative	‘in short’	briefly, to sum up, in conclusion
	verificative	‘actually’	actually, in fact, as a matter of fact
II Extension	additive	‘and’	also, moreover, in addition, besides
	adversative	‘but’	on the other hand, however, conversely
	variative	‘instead’	instead, alternatively
III Enhancement	temporal	‘then’	meanwhile, before that, later on, next, soon, finally
	comparative	‘likewise’	likewise, in the same way
	causal	‘so’	therefore, for this reason, as a result, with this in mind
	conditional	‘(if ...) then’	in that case, under the circumstances, otherwise
	concessive	‘yet’	nevertheless, despite that
	respective	‘as to that’	in this respect, as far as that’s concerned

(Halliday & Matthiessen, 2014, p. 108)

Categories for the elaboration, extension, and enhancement conjunctive adjuncts are illustrated in the Table 2.17 above.

2.9.5. Lexical Cohesion

According to Halliday and Matthiessen (2014), lexical cohesion is created by the preference of lexical items. It is formed either between single words or larger units, and immediate or remote ties in discourse can connect them to each other. Lexical cohesion is created through choosing certain lexical items that have common grounds with the previously stated items in texts.

Halliday and Hasan (1976) demonstrate two main umbrella terms for lexical cohesion: reiteration and collocation. Reiteration consists of repetition, synonymy, antonym, superordinate, and general nouns, and it takes place by repetition or restating the word using lexical relations. Halliday and Hasan (1976) described reiteration as

a form of lexical cohesion which involves the repetition of a lexical item, at one end of the scale; the use of a general word to refer back to a lexical item, at the other end of the scale; and a number of things in between – the use of a synonym, near-synonym, or superordinate.

(as cited in Hellalet, 2013, p.161)

“Night after night I had passed the house (it was vacation time) and studied the lighted square of window: and night after night I had found it lighted in the same way...” (Joyce, 1914, p. 7).

In this text, examples for repetition can be found. There are exact word for word repetitions of “night after night” and “lighted”.

On the other hand, collocation means words going hand in hand and words that are ‘typically associated with one another’ (as cited in González, 2011, p.168). Halliday and Hasan (1976) also defined the term “synonymy” as a word aimed at forming cohesion by creating a link between a previously mentioned and a newly introduced item in a text. In the sentence below, “maleficent” and “sinful” are synonyms that have the same meaning:

“But now it sounded to me like the name of some maleficent and sinful being” (Joyce, 1914, p. 7).

Salkie (1995) state that words with class change are also considered synonyms; that is, “the original nouns correspond to the verbs that come later”

(p.10). In the example below, “screwdriver” and “unscrewing”, “hammer” and “hammering” are synonyms with word class change.

“Each man is armed with a screwdriver, pliers, and a hammer... They are unconsciously syncopating the beat as they alternate between hammering, prying, and unscrewing” (Salkie, 1995, p. 10).

Salkie (1995) proposes that using antonyms is another way of creating lexical cohesion in a text. In the following example, the words “tiresome” and “interesting” are antonyms that have adverse connotations.

“Tiresome old fool! When we knew him first he used to be rather interesting” (Joyce, 1914, p. 7).

Another term “hyponymy” is described as a lexical item characterizing another that is a “super class” or a “subclass” or an equal class one (Halliday & Hasan, 1976).

“Brazil, with her two-crop economy, was even more severely hit by the Depression than other Latin American states and the country was on the verge of complete collapse” (Salkie, 1995, p. 15).

In this example, the general word is “the country” that is a superordinate, and it is associated with a more specific word “Brazil”, which is a hyponym.

In addition, collocation is a collaborative word phrase in the sense that it represents unity and conformity to one another; that is, the existence of one of them presupposes the other (Halliday & Hasan, 1976). In the example below, “crowd”, “assemble”, and “mass” are words that are forming a unified whole.

“On special Sundays, when Mr. Kearney went with his family to the pro-cathedral, a little **crowd** of people would **assemble** after **mass** at the corner of Cathedral street” (Dubliners, Joyce, p. 100).

2.10. Cohesion in EFL and ESL Writing

A number of researchers studied cohesion in EFL and ESL settings (Bae, 2001; Kadiri, Igbokwe, Okebalama, & Egbe, 2016; Martinez, 2015; Meisuo, 2000; Tangkiengsirisin, 2010; Witte & Faigley, 1981; Xuefan, 2007; Xin-hong, 2007; Zarepour, 2016). Zarepour (2016) investigated essays written by 30 advanced EFL learners studying at English language teaching department. They were asked to write an opinion essay and the study aimed to find out the mostly utilized cohesive devices by Iranian EFL learners. Halliday and Hasan's (1976) taxonomy was taken as the data analysis procedure. The findings showed that reference was the most commonly used cohesive device, succeeded by conjunction, lexical cohesion, ellipsis, and substitution.

Similarly, Kadiri, Igbokwe, Okebalama, and Egbe (2016) examined essays written by two hundred final year Nigerian ESL learners. The students' background differed as they were from various faculties that were arts, social sciences, biological sciences, and physical sciences. The essays were analyzed in terms of lexical cohesion, i.e. repetition, synonym, and collocation use. According to the results, students made use of repetition mostly, and synonyms and collocations were used minimally. Yet in another study in Nigeria, Olateju (2006) analyzed seventy essays by second grade ESL high school students. Lexical and grammatical qualities of essays were examined, and the results showed that students lack the ability to use anaphoric, cataphoric, personal, and demonstrative references, the definite article, conjunctions, repetition, synonym, and superordinate devices in their essays.

In another study examining the use of lexical and grammatical cohesion, the essays written by English learners enrolled in Korean-English two-way immersion program were analyzed (Bae, 2001). The data were collected from 192 students at elementary level. Narrative writings of students were analyzed in terms of reference, lexical cohesion, conjunction, ellipsis, and substitution. The results indicated that ellipsis and substitution had relatively smaller percentage of usage. On the other hand, lexical cohesion was the most commonly used cohesive device, followed by reference, and conjunction. Among references, pronominal reference was the most frequently used one, followed by proper nouns. Also, most typically used

conjunctions were temporal, followed by additives. Bae (2001) also examined the relationship between writing quality and the use of cohesive devices. It was found that whereas reference and lexical cohesion had high correlations with the writing quality, ellipsis and substitution illustrated weaker correlations.

The use of cohesive devices among different proficiency level English language learners was also investigated using 35 third, fourth, and fifth grade elementary school Latino ESL students' narrative essays (Guthrie, 2008). The results showed that substitution and ellipsis were used infrequently across the two groups, as it was also the case in Bae's (2001) study. It was often used when students created dialogues between characters in their stories. References, conjunctions, and lexical cohesion devices were used, and pronominal references and lexical repetitions were used the most. This finding was consistent with Bae's (2001) study in which pronominal reference was used the most among reference types. Also, exophoric reference was not used frequently. In addition, older students used more synonym, collocation, and superordinate.

In the Chinese EFL setting expository essays of 107 second-year English major Chinese undergraduate students were analyzed with the aim of figuring out the frequency of cohesive devices, the distance of cohesive ties, and the relationship between the quality of writing and the number of cohesive links, and common qualities in cohesive device use of students (Meisuo, 2000). The findings of the study showed that lexical devices were utilized the most, followed by conjunctions and reference devices. Bae (2001) also found that lexical cohesion was the mostly utilized cohesive device in students' writings. Elaboration and extension of ideas was a common feature of expository essays; thus, lexical devices were the mostly used devices in students' essays. There was also no significant difference between the quality of writing and quantity of cohesive devices. However, the results of Bae's (2001) study illustrated that there was a significant difference between writing quality and reference and lexical cohesion. In addition, immediate and remote ties were used most by the students. Students also focused on topic by expanding their ideas and clarifying their message by using immediate ties. Remote ties, on the other hand, were used to arrange and connect ideas. However, mediated ties were seldom used as this kind of tie is associated more with reference ties and they were not used

much in expository essays. There was also no significant difference between highly rated and lowly rated essays in cohesive ties distance. As to reference devices students used pronouns the most, followed by demonstratives, and comparatives. Bae (2001) and Guthrie's (2008) findings also showed that pronominal reference was the dominant reference type. Students did not use a variety of comparative cohesive devices. Additive devices were used the most in students' essays, followed by temporal, causal, adversative, and continuatives. As it was also the case in Kadiri et al.'s (2016) research, among lexical cohesion repetition was found to be the mostly used cohesive device, followed by collocation, and synonym. General word and synonym were seldom utilized.

Furthermore, Witte and Faigley (1981) analyzed collocation, conjunction, ellipsis, reference, lexical reiteration, and ellipsis as well as immediate, mediated, remote, and mediated-remote T-unit instances in essays written by 10 native English speaker college freshmen. The study showed that high-rated essays used more immediate cohesive ties and conjunctions to link their ideas in text. This result was in line with Meisuo's (2000) findings, which also found that immediate ties were the most frequent type. Also, in line with Bae's (2001) findings, the use of lexical cohesion and reference rated higher among high-rated essays. The use of lexical cohesion rated higher among high-rated essays as writers of those essays tended more to elaborate and weave their ideas. Conjunctions were utilized more in high-rated essays as well.

Regarding the use of conjunctions, scientific essays written by ESL secondary school students were analyzed in terms of elaboration, extension, and enhancement dimensions according to Halliday's (1985) cohesion theory (Keys, 1999). Students' essays were written during science projects in a summer science camp. The results of the study illustrated that extension was the most typically used conjunctive adjunct type ($X=3.10$), followed by enhancements ($X=2.0$), and elaboration ($X=1.1$). This finding was in line with Meisuo's (2000) findings in which elaboration and extension devices contributed to the development of ideas in texts. Students expanded sentences with extension by using conjunctions like 'and', 'but', and 'while' in the essays.

The results of the studies in EFL and ESL context showed that there was a positive correlation between the quality of writing and the use of cohesive devices (Bae, 2001; Witte & Faigley, 1981). Studies investigating the use of lexical cohesive devices also illustrated that lexical cohesion was used more than grammatical cohesive devices in students' writings (Bae, 2001; Kadiri et al., 2016; Meisuo, 2000). However, the use of substitution and ellipsis was low in students' essays (Bae, 2001; Guthrie, 2008). In addition, among references, pronominal reference was used the most (Bae, 2001; Guthrie, 2008; Meisuo, 2000).

2.11. Cohesion in EFL/ESL Writing in Comparison to Native Speaker Writing

A number of studies were carried out to compare the use of cohesion between native and non-native learners' writings so as to see in what ways non-native speakers' writings deviate from those of native speakers (Fan, 2009; Johnson, 1992; Granger & Tyson, 1996; Rahman, 2013). Fan (2009) carried out a comparative study on Hong Kong ESL and native speaker corpora to examine collocation use. The writing task was the same for both groups that required learners to write a narrative essay. The results showed that collocation use of ESL students was negatively impacted by an interference of their native language in addition to a lack of lexical and grammatical knowledge in the second language. According to the results, as it was also the case in Mirzapour and Ahmadi's (2011) study, native speakers used more collocation phrases, and they had a richer variety in their essays compared to ESL learners. This finding was in contrast to Johnson's (1992) findings in which non-native learners made use of collocations more than native speakers.

It was aimed to find out in Johnson's (1992) analysis of sixty expository essays written by Malaysian and native speakers if cohesion and thematic patterns of essays written in Malaysian and in English by Malaysian learners of English were similar to essays written in English by native speakers. The relationship between whether density and type of cohesion and thematic patterns in English and in Malay was also investigated. The results showed no significant difference in the cohesive device use between good and weak essays written in English by EFL and native speakers. Whereas highly rated essays written in English by EFL learners had a higher range of intersentence semantic ties like reiteration and collocation, and

highly rated essays written in English by native speakers included more syntactic ties such as reference and conjunction.

In good agreement with Johnson's (1992) findings, Rahman (2013) also found that non-native students used repetition more, whereas native students made use of reference more in their texts. In this study 60 descriptive essays written by EFL Arabic learners studying at an ELT department were analyzed, and then their essays were compared to 29 essays written by native speakers of English working at the Department of Basic English program and other faculties. The findings showed that third year EFL students used less repetition than the first year EFL students. The third year students used more personal and demonstrative pronouns to avoid repetition. Native students used a significantly higher number of cohesive devices than non-native students. Also, whereas non-native students used repetition, synonym, superordinate, and antonyms more, native students used reference, substitution, ellipsis, and conjunctions more.

Concerning the use of conjunctions, Granger and Tyson (1996) carried out a study to test their hypothesis whether there would be an overuse of connectors in argumentative English essays of French learners compared to native speakers. With the aim of comparison, an ICLE corpus consisting of French data and a LOCNESS corpus including native speaker data were exploited in the study. The findings showed that whereas non-native students' essays included more conjunctions than native students' essays, native students' texts had a richer variety of the use of conjunctions.

Furthermore, Mirzapour and Ahmadi (2011) investigated sixty Persian and English research articles in language, linguistics, and literature fields to find out if there were any differences in the use of lexical cohesion devices between English and Persian research articles. According to the results of the analysis, repetition was the mostly used cohesive device, followed by synonym, collocation, antonym, hyponym, and meronymy in non-native learners' articles. On the other hand, repetition was the most frequently used device, succeeded by collocation, synonym, general noun, meronymy, hyponymy, and antonym in English data. Repetition, collocation, and synonym were mostly utilized lexical cohesive devices by both

groups. However, whereas English research articles contained more repetition and collocation, Persian data consisted of repetition and synonym mostly.

The studies discussed so far in this section demonstrated that whereas the use of repetition was prevalent in non-native learners' essays, native speakers made use of reference more in their essays. Regarding the use of collocation, it was observed that native speakers' essays had a higher number of collocations than non-native speakers' essays. Moreover, when native and non-native speakers' essays were analyzed in terms of conjunctions, it was discovered that not only the number of conjunctions were higher in native speakers' essays but also the conjunctions had more variety (Fan, 2009; Granger & Tyson, 1996; Johnson, 1992; Mirzapour & Ahmadi, 2011; Rahman, 2013).

2.12. Cohesion in Argumentative Essays

As Hyland (2009) puts forward, among undergraduate students' writing tasks argumentative genres have an important place in improving students' academic information. Working on argumentative genre aids in mingling with a social system that has regulations and strong rules. However, argumentative writing is considered to be the most challenging model compared to descriptive, narrative, and expository essays both in native and second or foreign languages by a number of researchers (Ferretti, Andrews-Weckerly & Lewis, 2007; Gleason, 1999). It is also argued that argumentative writings composed by second or foreign language learners in English have unique syntax or discourse qualities that are quite different from texts of this genre written in their first language (Neff, Martinez & Rica, 2001; Neff-Van Aertselaer & Dafouz- Milne, 2008).

Grammatical cohesive devices in argumentative writings of undergraduate students were also investigated in undergraduate Pilipino ESL context (Alarcon & Morales, 2011). Sixty-four essays constituted the corpus and in these texts reference was used the most, followed by conjunction, and substitution. Also, there was no significant difference between the quality of writing and cohesive devices use. The study showed that adversative cohesive devices helped building counter arguments in argumentative essays. Besides, students overused the conjunction in their essays.

In another research about the use of cohesion devices in argumentative and narrative essays, in Malaysian and Thai context, Dueraman (2007) worked on fifty-six papers written by second year medical Malaysian and Thai ESL learners. The study aimed to find out types of cohesive devices, frequency of use by both groups, the relationship between cohesive device usage and writing quality. Each student was asked to write an argumentative and a narrative essay. Both Thai and Malaysian language learners used reference and conjunction, which were syntactic ties, more than reiteration and collocation, which were semantic ties. This finding was consistent with Alarcon and Morales' (2011) findings that showed that reference was the most prevalent structure. In both argumentative and narrative essays reference was the mostly used device, followed by conjunction, reiteration, and collocation by Malay learners. On the other hand, Thai students showed a varied pattern in that reference was the mostly used device, followed by conjunction, collocation, and reiteration. Also, there was no significant difference in terms of cohesive device use between highly-rated and lower-rated essays.

In a study in the Chinese context, cohesion was analyzed in 50 argumentative essays written by Chinese undergraduate non-English majors (Liu & Braine, 2005). The study showed that students could make use of various cohesive devices in their writing. The most common cohesive device was lexical device, followed by references and conjunctions. In addition, cohesive devices usage percentage was found positively correlated with writing quality. However, this result was in contrast with Alarcon and Morales' (2011), Dastjerdi & Samian's (2011), Dueraman's (2007), Nasrollahi's (2016), and Xuefan's (2007) studies in which no significant difference was found between writing quality and cohesive device usage.

In another study narrative and argumentative essays of 15 freshmen and 15 junior students were examined to enquire whether lexical cohesion features change according to proficiency level and text type (Xuefan, 2007). According to results, exact repetition was the mostly used device, followed by collocation, synonym, superordinate, and general words. This finding concurred well with Connor's (1984) and Crowhurst's (1987) results that also found repetition to be the most frequently utilized cohesion device. However, there was not a positive correlation between

language proficiency and lexical cohesion. In addition, there was only a positive difference between lexical cohesion and text type in terms of collocation. That is, narrative essays had more collocation ties than argumentative essays.

In the Iranian EFL context, 40 argumentative essays created by Iranian undergraduate non-English major students were analyzed (Dastjerdi & Samian, 2011). The results showed no significant relationship between the number of cohesive devices and writing quality. Students made use of lexical devices the most, followed by reference and conjunctions. Among reference devices pronominal reference, followed by the definite article “the”, comparatives, and demonstratives were used mostly. Among conjunction types additive conjunction was used most commonly, followed by causal, adversative, and temporal conjunctions. The findings of the study were similar to Xuefan’s (2007) and Crowhurst’s (1987) study in that in terms of lexical cohesion; repetition was made use of the most (%76). It was then followed by synonym (%8.7), collocation (%7.9), antonym (%4.8), and superordinate (%2.6).

Besides, six argumentative essays written by advanced level ESL learners and native speakers were examined by using Halliday and Hasan’s (1976) cohesion taxonomy (Connor, 1984). The study aimed to analyze number of cohesive ties and thematic structure links in EFL and native speakers’ essays. The findings showed that there was no significant difference in usage of cohesive devices density between two groups. However, whereas ESL learners used lexical reiteration most, and they used a low number of synonyms and collocations, native speakers made use of collocation most and they used lexical reiteration to a low degree. Therefore, native speakers tended to use a richer variety of vocabulary using elaboration and extension conjunctions. On the other hand, ESL learners used more conjunctions than native speakers.

Regarding the use of cohesive devices in different genres, cohesive relations in argumentative and narrative papers written by sixth, tenth and twelfth graders were examined (Crowhurst, 1987). The study showed that in all grade levels of argumentative and narrative essays, repetition was the most used device, followed by pronominal, demonstratives, the definite article, and collocation. However, synonym,

collocation, pronominal reference, demonstrative reference, the definite article *the* and temporal conjunctions were used more in narrative essays. Conversely, lexical repetition and exophoric reference were more dominant in argumentative essays. While in narration sixth graders used more repetition than twelfth graders, twelfth graders made use of more repetition in argumentative essays.

In the Spanish EFL context, the use of conjunctions in Spanish EFL third and fourth grade secondary school students' argumentative essays were analyzed to find out if conjunction use differed across different grade levels and whether there was a relationship between writing quality and conjunction use (Martinez, 2015). As opposed to the findings of Crowhurst (1987), there was a significant difference between third and fourth year students' essays in terms of the number of conjunctions utilized. Fourth year students used a great deal of more conjunctions compared to third year students. Also, there was a significant difference between quality of writing and conjunction density. This finding gave support to the findings of Crowhurst (1987) and Liu and Braine (2005). Students who used more conjunctions got higher scores for their essays. In consistent with Alarcon and Morales' (2011) results, it was found that students overused conjunctions in their essays by repetition of the same conjunctions over and over again.

In the Turkish EFL context, 100 argumentative essays written by Turkish EFL students studying at the department of foreign language education were analyzed (Nasrollahi, 2016). It was aimed to find out if there was a relationship between the quality of writing and cohesive device use. According to the findings, lexical devices were used the most, followed by reference and conjunctions, and this finding matched well with Dastjerdi & Samian's (2011) and Liu & Braine's (2005) findings. Also, there was also no significant relationship between cohesive device use and writing quality, and this was in good agreement with previous literature (Alarcon & Morales, 2011; Dastjerdi & Samian, 2011; Dueraman, 2007; Xuefan, 2007). The results also showed that students' essays had all types of cohesive devices. Also, in consistent with Dastjerdi and Samian's (2011) findings, among reference ties, pronouns were used the most (37.15 %). Then, it was followed by comparatives (27.95%), and the definite article 'the' (22.02%). Also, comparative reference was used the least. Among demonstrative references, 'this' and 'these'

were used more frequently than ‘that’ and ‘those’, and most of them were used to refer to distance. There was only one instance when they were used to link ideas to previously stated information in the text. As pronominal reference was used to a great degree, it was implied that undergraduate Turkish learners of English tended to elaborate on their ideas in separate clauses because using a pronoun requires pointing backwards in texts. Among lexical devices, repetition was used the most, followed by synonyms and antonyms. On the other hand, substitution, ellipsis, superordinate and collocations were used rarely. Additionally, the results of the follow up interview about cohesion showed that students were able to define cohesion as an element connecting the sentences together. However, their answers showed that their knowledge about the term ‘cohesion’ was mostly about conjunction usage. They did not have a thorough understanding of lexical cohesion and other grammatical cohesion devices. They also mentioned that they had learned the term ‘cohesion’ explicitly in their linguistics courses; however, their knowledge was only on the conjunctive cohesion level.

The studies analyzing the use of cohesive devices in argumentative essays showed that there was no positive relationship between cohesive device use and the quality of writing (Alarcon & Morales, 2011; Dastjerdi & Samian, 2011; Dueraman, 2007; Nasrollahi, 2016; Xuefan, 2007). Conversely, a positive correlation could be found between the use of cohesive devices and the quality of essays in some other studies (Crowhurst, 1987; Liu & Braine, 2005; Martinez, 2015). Furthermore, in studies lexical cohesion was used in students’ essays the most, followed by reference, and conjunction (Dastjerdi & Samian, 2011; Liu & Braine, 2005; Nasrollahi, 2016). Moreover, among reference types, pronominal reference was used the most (Dastjerdi & Samian, 2011; Nasrollahi, 2016). Also, conjunctions were overused in students’ essays (Alarcon & Morales, 2011; Martinez, 2015).

CHAPTER III

RESEARCH METHODOLOGY

3.1. Introduction

In line with studies discussed so far, this section introduces research model, participants and setting of the study, data collection instruments, data collection procedure, and data analysis. The following research questions will be inquired in this study.

-What kinds of cohesive devices and thematic patterns are used in argumentative writings produced by undergraduate native speakers of English?

-What kinds of cohesive devices and thematic patterns are used in argumentative writings produced by undergraduate Turkish learners of English?

- What are the similarities and differences in terms of cohesion and the organization of thematic patterns in argumentative essays produced by undergraduate Turkish learners of English and undergraduate native speakers of English?

3.2. Research Model

In this study it was aimed to specify types of cohesive devices and thematic patterns used in argumentative essays of undergraduate native speakers of English and undergraduate Turkish EFL learners. For this purpose, a descriptive study was carried out. Discourse analysis, a qualitative method of analysis, was used to find out the similarities and differences in terms of cohesive device use in argumentative essays produced by undergraduate Turkish learners of English and undergraduate native speakers of English. In addition to the qualitative data obtained from discourse analysis, statistical analysis was done to look into the frequency of use of such devices and T-test and Mann Whitney U tests were used in order to determine if there were any significant differences in the use of cohesive and structural devices

between the two groups of students. Thus, a mixed methods research was applied in this study for the purpose of answering the research questions above.

Discourse analysis is the process of analyzing communication data or written texts (Stubbs, 1983; cited in Widdowson, 2004). In this study, the analysis of students' essays by discourse analysis using a descriptive study design would help describe the current state, i.e. thematic structure and cohesion of Turkish speakers' writings in English in comparison to essays written by native speakers. Accordingly, discourse analyst investigates the areas of use of language, which is what this research aims to find out. "The analysis of discourse is, necessarily, the analysis of language in use (Brown and Yule, 1983, p.1). It is explained that it includes the examination of form-functional relations, which are generally longer than a sentence or utterance in functional linguistics. Discourse is also central to studies in improvement and evaluation of students' writing skills (Witte and Faigley, 1981). As McCarthy (1991) recounts, it concentrates upon interaction between language and context. It is concerned with the study of prevailing language in written text, spoken language, and many types of conversation.

It is argued by Adger and Wright (2015) that with the use of discourse analysis in education classroom practice is evaluated in order to describe strengths and weaknesses of teaching and learning activities. Thus, discourse analysis studies came together with second language teaching in applied linguistics field with the studies of classroom-based research. Therefore, discourse analysts use functional linguistics, conversation analysis, and text linguistics in order to work on lexical and grammatical qualities of texts, written text construction, speech acts, and order of talk in speech. (Poole & Samraj, 2010 as cited in Kaplan, 2010). Because systemic functional linguistics also aims to understand language and it is used to understand characteristics of a text, such as the reason behind the writer's meaning, and the reason why readers interpret it in the way they do (Halliday, 2014), it is frequently used in discourse analysis.

In this research, for the identification of cohesive devices Halliday and Hasan's (1976) cohesion theory, Halliday and Matthiessen's (2014) systemic functional approach, and Danes' (1974) thematic progression taxonomies were used to code the

data in this study. To this end, firstly cohesive devices were identified and then the number of cohesive devices in each essay was counted. Then, descriptive statistics such as (mean, std. deviation, P value) were computed by using the 20.0 version of the SPSS statistical software package.

3.3. Participants and Setting of the Study

A total of 60 students took part in this study. 30 of the students were undergraduate native speakers of English and 30 of them were undergraduate Turkish learners of English. All the native English speakers' L1 was English. They were aged between 19-23 and were studying various subjects in social studies in the USA at tertiary level. On the other hand, all of the non-native participants' L1 was Turkish. Fifteen of the non-native students were English Language Teaching major first-year students enrolled in *Advanced Reading and Writing I* course, at a state university in Turkey. The other fifteen non-native students were preparatory class students at a private university in Turkey. They were aged between 18-23. One of the instructors of these students was a native speaker of English, whereas the other five teachers were native speakers of Turkish. The participants were selected using convenience sampling and then from more than thirty argumentative essays these students wrote in the first term of the academic year of 2016-2017, thirty essays were selected randomly. Both the students at preparatory class and students at ELT department were B2 level language learners. Also, students from preparatory class came from a range of departments such as law, engineering, business, tourism, fine arts and architecture. In addition, thirty argumentative essays of thirty American undergraduate students were randomly chosen from a corpus called *LOCNESS*.

3.4. Data Collection Procedure

30 argumentative essays written by 30 non-native language learners and 30 argumentative essays by 30 native speakers were taken as the data of this study. The sample taken from foreign language education department was a component of their compulsory course assignments. At *Advanced Reading and Writing I* classroom hours, instructor taught students the basics of how to write an argumentative essay. During the semester, a process-oriented approach was adopted. Every student was

required to write two 400-500-word essays on topics of their own choice during the term, and all essays were on social studies topics. The topics students wrote on included “*Should countries have conservation policies?*” and “*Should new words from social media be included in dictionaries?*” However, in this study only the final draft of student papers were analyzed. In the end, 15 essays constituted the data of the present study. The freshman students sent copies of their essays via email. Only the essays of the students volunteering to take part in this study were taken as the data of this study.

On the other hand, preparatory class students wrote an argumentative essay on the basis of their own choice of topic for the purpose of an exam preparation. Furthermore, they all wrote on the topics of social sciences. The length of essays ranged from 350 to 500. These students were given the opportunity to choose a genre to write on their final exam. Thus, students who were planning to write an argumentative essay on their final proficiency test mostly wrote papers in a process-based approach as a voluntary task in their writing course. Students wrote on the topics such as scientific research, technology, vaccination, public transport and living in a foreign country. The researcher collected data from preparatory students from different classes taught by different teachers at intervals.

Argumentative essays written by native speakers of English were accessed using LOCNESS corpus. Thirty essays by undergraduate writers from the USA on argumentative topics were retrieved from the corpus for the purpose of a comparison of English as a Foreign Language Speakers’ essays with native speaker ones. The undergraduate native students’ essays were on the topic “*Great inventions and discoveries of 20th century and their impact on people’s lives*”. The topics included topics such as computer, television, etc. The topics students wrote on differed between the native and non-native group; however, the topics of both native and non-native students’ essays were on social sciences. These essays were timed essays as they were written during the class hours as a component of the course. Since in this study a wider range of cohesive devices, i.e. references, substitution, lexical cohesion, thematic progressions are analyzed, sixty essays in total were taken as the data for the analysis in this study.

3.5. Data Analysis

In order to detect the differences in the use of cohesive devices between native speakers of English and Turkish learners of English, argumentative essays were chosen. Argumentative genre was chosen for this study because using this genre was typical to studies in literature examining cohesion structure of essays. However, in Turkish EFL context, no such studies that analyzed lexical cohesion, grammatical cohesion, and thematic progression patterns of argumentative essays by undergraduate students were carried out. The texts under investigation were nearly the same length: in total 11949 words from undergraduate native speaker corpus LOCNESS, and in total 11939 words from non-native writers' essays, 6868 words in essays written by Turkish learners of English studying at English language teaching department, and 5071 words from preparatory class students' essays. According to the T-test results, there was no significant difference between native and non-native word count.

In order to analyze cohesion, Halliday's (2014) systemic functional approach, Halliday and Hasan's (1976) cohesion theory, and Danes' (1974) theories were adopted. Cohesion and thematic pattern devices, which were thematic progression, theme, rheme, marked and unmarked theme, elaboration conjunctions, extension conjunctions, enhancement conjunctions, collocation, texture, repetition, synonym, antonym, superordinates, anaphoric reference, cataphoric reference, exophoric reference, personal reference, comparative reference, demonstrative reference, substitution, and ellipsis, were analyzed within the scope of this study.

The texts were closely analyzed and cohesive and coherence devices in each paper were tabulated, and the frequency of their use was analyzed by the researcher to describe the correlation between native and non-native English student papers. Then, mean score of cohesive and thematic pattern devices were computed using SPSS, and the data were further analyzed by using SPSS program to carry out T-test and Mann-Whitney U Test.

In order to ensure interrater reliability two researchers checked the data independently. The twenty-two dimensions used in the analysis of cohesion and

structural structures in academic essays written by undergraduate students in this study were taken from the previous studies in literature by carrying out a detailed review of these studies as presented in Chapter 2. This aimed to increase the content validity in this study.

It was aimed in this study to specify whether undergraduate native speakers of English and undergraduate Turkish students differed in their use of cohesive devices. In the analysis phase, when it was observed that data were normally or near-normally distributed, T-test was applied to determine if two independent groups varied in terms of dependent variables (Green & Salkind, 2004; Larson-Hall, 2010). Since the data were normally or near-normally distributed in the dimensions repetition, collocation, unmarked theme, and personal reference in this study, T-test was applied for these dimensions.

On the other hand, it was also observed that the data was not symmetrically distributed in terms of some dimensions. In such cases such as this, non-parametric tests are used. If independent variables are grouped into two, Mann-Whitney U test is applied in order to specify whether dependent variables would differ between the two groups (Green & Salkind, 2004; Larson-Hall, 2010). For this purpose, Mann-Whitney U test was used in this study in the dimensions of antonym, synonym, superordinate, texture, constant theme progression, linear theme progression, derived theme, split rheme progression, marked theme, substitution, ellipsis, elaboration, extension, enhancement, and demonstrative, comparative, anaphoric, cataphoric, and exophoric references to detect any difference between native and non-native students.

In the analysis of the thematic patterns of the essays, the following procedure was adopted: Theme and rheme of every sentence were analyzed, in the essays written by native speakers of English and Turkish learners of English; and whether or not they are marked or unmarked themes (see Tables 2.1, 2.2, 2.3, 2.4, 2.5, and 2.6) were recorded. Next, the thematic structure was categorized according to Danes' (1974) constant theme, linear theme and derived theme progression types, and a comparison was made to illustrate the differences of frequency of use in native and

Turkish students' essays. However, when there were instances of no thematic patterns in the essays, those clauses were not included in the data analysis.

Table 3. 1

The Coding Procedure for Linear Theme Progression

Theme 1	Rheme 1
But the most dangerous thing	is human being.
Theme 2	Rheme 2
Human being	have been harming the nature of the Earth.

Examples of the coding of the thematic patterns are shown below. As it is illustrated in Table 3.1 above, rheme of the first sentence “human being” becomes the theme of the following clause. This pattern was coded as an example of linear theme progression.

Table 3. 2

The Coding Procedure for Constant Theme Progression

Theme 1 Humans	Rheme 1 have no other chance as Conservation Policies.
Theme 2 Because they	Rheme 2 are destroying the World day by day.
Theme 3 Humans	Rheme 3 have to protect the World.

If the theme of first clause was repeated in theme of the second and the third sentences, the pattern was coded as constant type progression, as it can be seen in Table 3. 2 above. Nonetheless, some instances of linear progression in students' essays were considered as non-representative of linear pattern due to the fact that the element introduced in the rheme was not elaborated in the following themes. Rather, the element introduced in the rheme was simply repetition of the same word in the theme of the following sentence. Therefore, these instances were coded as constant theme progression after one instance. That is, the first instance was coded a linear

progression; however, the pattern was then considered as forming constant theme progression.

Table 3. 3

The Coding Procedure for Derived Theme/Split Rheme Progression

Theme 1	Rheme 1
It	must be recognized as one of the more vital tools used in society today, amongst world leaders, trading companies, and the media, as well as the entertainment world.
Theme 2	Rheme 2
Presidents and dictators alike	switch the channel to receive first hand information from the network.
Theme 3	Rheme 3
Leaders and presidents of enterprises such as panasonic and CORE	refer to CNN, created by satellite dish, on a daily bases.

As it can be seen from table 3. 3 above, rheme 1 constitutes themes of theme 2 and theme 3. In this data taken from the native corpus, it was coded as an example of a split rheme progression.

Table 3. 4

The Coding Procedure for Conjunctive Adjuncts

Elaboration	Extension	Enhancement
In conclusion , we have to use conservation policies to keep environment clean for our next generations.	In addition , our inventions are used to dominate one another.	Personal computers are becoming quite common, and therefore less expensive and easier to own.
Summative Type (NNS Data)	Additive Type (NS Data)	Causal Type (NS Data)

Next, conjunctions used in the essays were analyzed and the use of conjunctions for, elaboration, extension, and enhancement (see. Table 2.17) were tabulated. Examples of coding for the analysis of conjunctions are shown in Table 3. 4. The words in bold exemplify each category of conjunctive adjuncts.

Table 3. 5

The Coding Procedure for Anaphoric, Cataphoric, and Exophoric Reference

Anaphoric	Cataphoric	Exophoric
To begin with, all people have to give importance to their lives. (NNS Data)	In addition, all of these problems can lead to this problem: unproductiveness in agriculture. (NNS Data)	Sure, a car with a computer that tells the driver when an on-coming obstacle is approaching is safe... (NS Data)

Analyzing the data for the use of cohesive tools, the reference types were also categorized as anaphoric, cataphoric, exophoric, and personal, demonstrative, comparative types. Then, the frequency of the mostly used reference types in native and non-native writers' essays was compared. Examples of coding for anaphoric, cataphoric, and exophoric types of reference are shown in the Table 3.5 above. The words in bold exemplify each category of reference.

Table 3. 6

The Coding Procedure for Personal, Demonstrative, and Comparative Reference

Personal	Demonstrative	Comparative
We seem to be somewhat obsessed with technology, and using it to dominate nature... (NS Data)	There are two main reasons for using animals for research. These are treatment and population. (NNS Data)	An average person spends three hours in social media. That means we have almost the same amount of time feeding ourselves. (NS Data)

Examples of coding for personal, demonstrative, and comparative types of reference are shown in the table above. The words in bold in the Table 3.6 exemplify each category of reference.

Table 3. 7

The Coding Procedure for Collocation

Collocation
Without a doubt, one of the most important inventions of the 20 th century has been contact lenses . If glasses were my only form of seeing better, I'd be blind most of the time. (NS Data)

Investigating the use of lexical cohesion in the student essays, words that are associated with one another in discourse are taken as collocations, as can be seen in Table 3. 7.

In addition, to analyze lexical cohesion, synonyms, antonyms, repetitions, and superordinates were examined. The frequency of occurrence of lexical cohesive devices in Turkish learners of English and native speakers' essays was determined and comparative descriptions were found. The cohesion and thematic patterns' frequency of occurrence native and Turkish learners of English students' essays was analyzed and compared.

Table 3. 8

The Coding Procedure for Synonym and Near-synonym

Synonyms	Near-synonyms
benefits- advantages	destroy -destruction

In case of synonyms, words symbolizing the same meaning were considered as synonyms. Words that belong to different classes but that have the same root were also considered near-synonyms and included in data analysis. In the Table 3.8 above examples of how data were coded could be seen. In addition, for lexical cohesion repetitions, use of synonyms, hyponyms, superordinates and antonyms were looked into.

Table 3. 9

The Coding Procedure for Clausal, Nominal, and Verbal Ellipsis

Clausal ellipsis	Nominal ellipsis	Verbal ellipsis
Some have had a great impact , while others have not (NS Data)	There are, however, several downsides to the television, and, like all inventions can be used in a useless way. (NS Data)	If they could have more money and leave, the majority would. " (NS Data)

Nominal, verbal, and clausal ellipsis types were also specified in texts, and after finding out the mostly used types in native and non-native group, frequencies of use were compared. Above examples of how data is coded for each ellipsis are shown. The words in bold in the Table 3.9 above were coded as clausal, nominal, and verbal ellipsis.

Table 3. 10

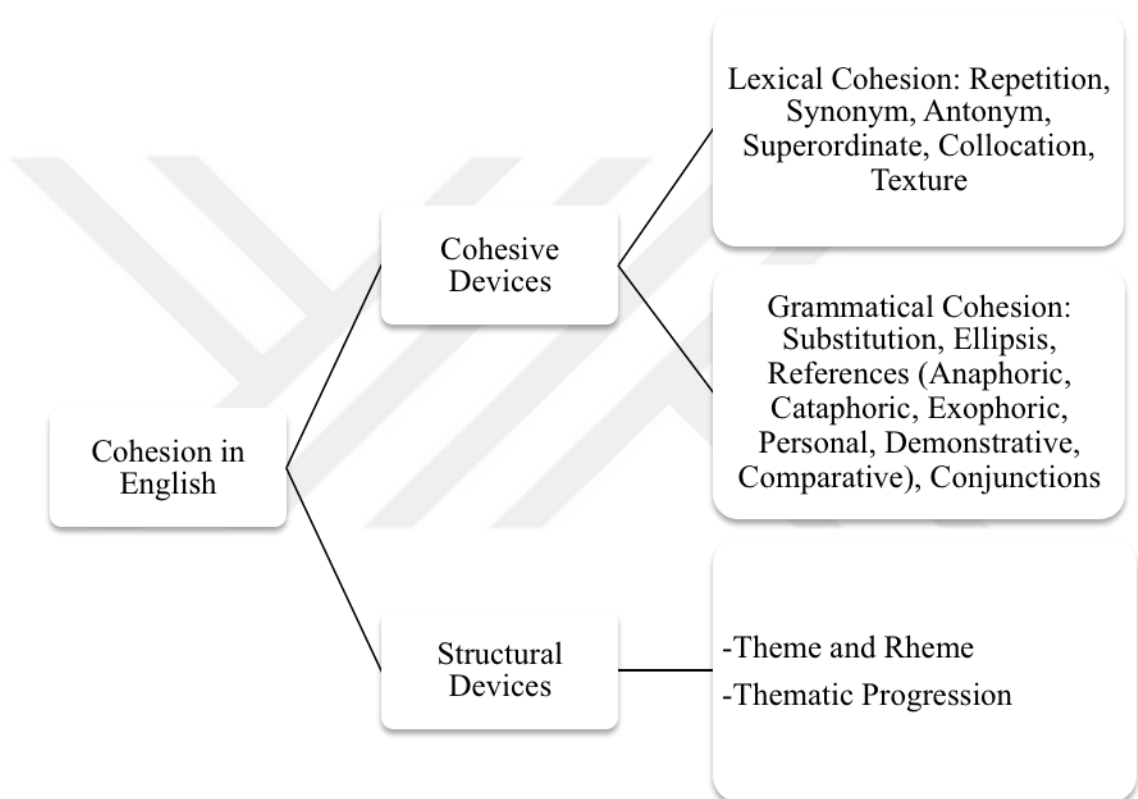
The Coding Procedure for Clausal, Nominal, and Verbal Substitution

Clausal substitution	Nominal substitution	Verbal substitution
No example is found in the data.	While each one of these inventions has affected our lives in one way or another, some stand out as more significantly changing our mode of living. Perhaps one does stand out a little more among its competition.	...they do not attempt to dominate nature nor other human beings as the majority of other inventions do .
	(NS Data)	(NS Data)

Nominal, verbal, and clausal substitution types were specified in texts, and after finding out the mostly used types in native and non-native group, frequency of occurrence was compared between the two groups. Above examples of how data are coded for each substitution are shown in the Table 3.10.

In light of the categories of cohesion and thematic patterns of Danes (1974), Halliday (1967), and Halliday and Hasan (1976) the following framework was used in the analysis of this study:

Figure 3. 1
The Categories for Cohesive and Structural Devices



CHAPTER IV

RESULTS

4.1. Introduction

In this chapter, first the qualitative data consisting of extracts from native and non-native students' essays will be presented. Afterwards, the quantitative data for each dimension in this study for the frequency of the use of lexical cohesion devices, grammatical cohesion devices, marked/ unmarked themes, and thematic progression patterns in the essays of native and non-native students will be shown. In order to figure out if there is any significant difference between native and non-native students in the use of cohesive and structural devices T-test and Mann-Whitney U statistics results will be given.

4.2. The Use of Lexical Cohesion

In this section, the use of lexical cohesion devices, which are repetition, antonym, synonym, superordinate, hyponym, collocation, and texture in native and non-native students' essays will be analyzed.

Table 4. 1

Frequency, Mean, and Percentages for Native and Non-Native Students' Essays of Lexical Cohesion Types

	Nationality	Frequency	Mean per essay	Percentage based on total
Repetition	Native	1108	36.93	49.28 %
	Non-native	1910	63.66	65.09 %
Collocation	Native	675	22.50	30.02 %
	Non-native	548	18.26	18.67 %
Texture	Native	204	6.80	9.07 %
	Non-native	319	10.63	10.87 %
Synonym	Native	132	4.40	5.87 %
	Non-native	69	2.30	2.35 %
Superordinate	Native	68	2.26	3.02 %
	Non-native	41	1.36	1.39 %
Antonym	Native	61	2.93	2.71 %
	Non-native	47	1.56	1.60 %
Total	Non-native	2934	97.77	100%
	Native	2248	75.82	100 %

As illustrated in the Table 4.1 above, repetition (49.28 %) of the same word had the highest percentage of usage in native students' essays, followed by collocation (30.02 %), texture (9.07 %), synonym (5.87 %), superordinate (3.02 %), and antonym (2.71 %).

Repetition (65.09 %) of the same word had the highest frequency among lexical cohesion in non-native students' essays, followed by collocation (18.67 %), texture (10.87 %), synonym (2.35 %), antonym (1.60 %), and superordinate-hyponym (1.39 %). As indicated in the Table 4.1 above, repetition of the same word was used more in non-native students' essays than in native students' essays. Furthermore, native speakers used a more balanced distribution of cohesive devices as opposed to the non-natives, who seemed to rely heavily on repetition.

Table 4. 2

Examples of the Use of Repetition in Native and Non-Native Students' Essays

NS	NNS
<p>The mental effect of computers is two-fold. Firstly, computers have made mathematical computations so easy to do, many people do not fully understand how or why their computer works. This has created a surplus of "needless" computations, figures, etc. People can easily do calculus or other type functions with a computer. What many people do not realize is that computers make errors all the time. Granted, it is the person who "told" the computer what to do that truly made the error; however if that person knew what he should do, or better stated "was able to do with a computer", he would not have erroneous answers.</p>	<p>Social media is the most collective communication tool that we use like Facebook, Twitter, Pinterest, Instagram, etc. Young people using social media create more and more new words. Nowadays, whether or not new words from social media should be included in dictionaries is being discussed. There are so many new words that we coin every day; that it is hard to keep track of all the new words. Therefore, new words from social media should not be included in dictionaries.</p>

Next, repetition and collocation use was analysed. Below are some extracts from the data showing NS/ NNS use of repetition. In the NS writer data, we can see repetition of the words, ‘computers, computations, errors and person’. NNS data in the extract shows repetitious use of ‘social media, new words and dictionaries’.

Table 4. 3

Examples of the Use of Collocation in Native and Non-Native Students' Essays

NS	NNS
<p>Personally, I find that relativity hasn't had its full impact. This is probably for several reasons: ... What Einstein did to humanity's philosophy was change the notion that closure could be obtained. The socratic idea that all was known. And that it was only a matter of time before a "moment" would reveal the knowledge from "within" was in effect shattered. The philosopher's stone was pulverized into utopic and nostalgic dust.</p>	<p>Under the pretext of creating employment, our government is planning the beach to be opened for tourism and to be built hotels at the area. If they reach their goals, most of the loggerhead sea turtles could not find a place to breed... Because of constructing golf courses, most forests have been destroyed in Belek in Antalya. Besides, local people overcut the trees to use them for fuel and set the forests on fire owing to opening agricultural areas.</p>

In the analysis of collocations used in essays, words that are expected to appear together are coded as collocations as can be seen in Table 4.3. Collocations in these excerpts are marked in bold.

Table 4. 4

T-test for the Use of Repetition and Collocation in Native and Non-Native Students' Essays

	Nationality	N	Mean	Std. Deviation	T	df	P
Repetition	Native	30	36.933	18.101	-6.682	58	0
	Non-native	30	63.666				
Collocation	Native	30	22.500	10.565	1.759	58	0.084
	Non-native	30	18.266				

*p<0.05 **p<0.01

Mean scores, std. deviation and t-test results (i.e. t, df, and P) for the distribution of repetition and collocation in native and non-native essays are shown in Table 4.4. The results show that there was a significant difference between native and non-native students in the use of repetition ($t(58) = -6.682, p < 0.01$).

However, as can be seen from the table above that there was no significant difference in the use of collocation between native and non-native students' essays ($t(58) = 1.759, p > 0.05$). Although there was no significant difference in terms of collocation dimension, the findings indicated that the mean score of native students' essays ($X = 22.500$) was higher than non-native students' essays ($X = 18.266$) with regard to collocation.

Table 4. 5

Examples of the Use of Antonyms in Native and Non-Native Students' Essays

NS	NNS
While many people enjoy and utilize the shopping malls, I believe that they are more of a detriment than a blessing ... Cities were first located near water, then near train tracks, and then began to locate themselves farther away... Rich and poor alike had easy access to the offerings of the central city... Why should we, say those with cars, go downtown where the more poorer people are and have to shop outside going from specialized store to store, when I can go to a nice indoor mall that has everything?	Parents can think of that behavior as affirmative . In fact, they affect their children negatively . Although some people claim that using computers has a positive effect for globalization, it has negative effects such as social, psychological and health... On the other hand some parents think that globalization affects children affirmatively thanks to computers.

As can be seen in the Table 4.5, in the analysis of antonyms used in essays, words that have opposite meanings are coded as antonyms.

Table 4. 6

Examples of the Use of Synonyms and Near-Synonyms in Native and Non-Native Students' Essays

NS	NNS
<p>Anger, frustration, fear, and many other negative feelings have sprung up simultaneously with the rise of computer usage. Clearly, there is evidence of good and bad results from the advent of the modern computer. It would be practically impossible to throw the computer away or never use it again. Yet there are practical solutions. Better mathematical education is needed for everyone who uses a computer other than a simple calculator. Also, curtailing some theoretical programming could eliminate alarming predictions or erroneous results.</p>	<p>With the increase of the usage of internet, the usage of social media has increased... For example, it contributes to economy. You may see these contributions on cinemas such as Emoji Movie... In addition to that, using these words can make people all around the world get together. Using these new words which originally formed in a specific subject can gather a large group of people together...</p>

Words that have the same meaning belonging to the same parts of speech and words with word class change are coded as synonyms as illustrated in the Table 4.6 by extracts from native and non-native students' essays.

Table 4. 7

Examples of the Use of Superordinates in Native and Non-Native Students' Essays

NS	NNS
<p>Data 1: Cities were first located near water, then near train tracks, and then began to locate themselves farther away due to the inventions of trucks and cars... Now, entertainers, whether they be musicians, actors, or athletes, can travel from place to place much more quickly.</p> <p>Data 2: There is much controversy about whether this new form of indoor entertainment is beneficial or not. Many believe that the problem with television is people become yonkies (with eyes glued to the set). They prefer to sit in front of the television instead of reading, exercising, or going to a museum.</p>	<p>Data 1: Animals, from the monkey to the mouse, are widely used in scientific research... We can prevent from illnesses such as rubella, influenza, HBV and tetanus.</p> <p>Data 2: Also they have a better economy than most of the countries such as the United States of America, Russia, or the United Kingdom. These countries have better than poor countries such as Africa or India.</p>

As it can be seen from the Table 4.7, in these examples taken from native and non-native students' data, words belonging to the same category are coded as hyponyms under a superordinate that functions as an umbrella term.

Table 4. 8

Examples of the Use of Texture in Native and Non-Native Students' Essays

NS	NNS
What the computer has meant for society is that it has enabled us to widen our understanding of what goes on in the world by allowing us access to databases and information systems more easily, that before were not available. It has made our lives easier in turn, because with more information you need a tool to better sort it out and put that information into a way we can more easily process it.	First of all, diagnose and treatment are significant for recovery . Unfortunately, some diseases treatment are unavailable or not enough. Therefore, scientist should do some research ...There are two main reasons for using animals for research these are treatment and population. If people want developing medicine , scientist should be used animals for research .

In the case of native and non-native students an extract illustrating how texture is used in sentences could be seen in the Table 4.8 above. The words in bold form texture within the sentence level boundary.

Table 4. 9

Mann Whitney U Test for the Use of Antonym, Synonym, Superordinate, and Texture in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Antonym	Native	30	32.35	970.5	394.5	0.4	-0.84
	Non-native	30	28.65	859.5			
Synonym	Native	30	35.72	1071.5	293.5	0.019	-2.33
	Non-native	30	25.28	758.5			
Superordinate	Native	30	35.95	1078.5	286.5	0.011	-2.53
	Non-native	30	25.05	751.5			
Texture	Native	30	24.57	737	272	0.008	-2.64
	Non-native	30	36.43	1093			

*p<0.05 **p<0.01

Mann Whitney U results (i.e. mean rank, sum of ranks, U, and P) for the distribution of antonym, synonym, superordinate, and texture in native and non-native essays are shown in Table 4.9. It can be seen that there was no significant difference between native and non-native students in the use of antonyms (U =394.5, p>0.05). However, the findings indicated that native students' essays had a higher mean rank of antonyms (32.35) than non-native students' essays (28.65).

In terms of the use of synonyms, there was a significant difference between native and non-native students ($U=293.5$, $p<0.05$). The findings indicated that native students' essays had a significantly higher mean rank of synonyms (35.72) than non-native students' essays (25.28). Similarly, there was a significant difference between native and non-native students in the use of superordinates ($U=286.5$, $p<0.05$). The findings indicated that native students' essays had a significantly higher mean rank of superordinates (35.95) than non-native students' essays (25.05).

Finally, there was a significant difference between native and non-native students in the use of synonym and texture ($U=272$, $p<0.01$). The findings indicated that non-native students' essays had a significantly higher mean rank of texture (36.43) than native students' essays (24.57).

4.3. The Use of Thematic Progression

In this part the frequencies, mean scores, percentages, T-test and Mann-Whitney U Test results for thematic progression categories in undergraduate native and non-native students essays are presented.

Table 4. 10

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Thematic Progression Types

	Nationality	Frequency	Mean per essay	Percentage based on total
Constant theme	Native	490	16.33	67.49 %
	Non-native	665	22.16	77.86 %
Linear Progression	Native	219	7.30	30.16 %
	Non-native	182	6.06	21.31 %
Derived Theme/ Split Rheme	Native	17	0.56	2.35 %
	Non-native	7	0.23	0.81 %
Total	Native	726	24.20	100%
	Non-native	854	28.46	100 %

As it is illustrated in the Table 4.10 above, in the essays of native speakers of English, constant theme progression (67.49 %) was the most frequently used

thematic structure, followed by simple linear (30.16 %), and derived Theme & split Rheme (2.35 %) progressions. According to the results, native speakers had 128 less thematic progression than non-native students in their writings. It was due to the fact that native speakers had fewer clauses in their essays and the clauses they used were mostly independent. On the other hand, non-native students' essays had more dependent and embedded clauses in comparison to native speakers in their essays.

Similar to the findings of the native speakers' use of thematic patterns, the most frequently utilized thematic progression type in non-native students' essays was constant theme (77.86 %), succeeded by simple linear (21.31 %), and derived theme/split rheme (0.81 %) progressions. Derived theme-split rheme progression was rarely found in all texts. Additionally, whereas native students had 915 clauses in total, non-native students had 1208 clauses in their essays. Therefore, it can be understood from the Table 4.4 above that non-native students used no thematic progression more often than native students in their essays. Whereas native students' essays had (20.65 %) of the time no thematic pattern, this percentage was higher (29.30 %) in the non-native students' essays.

Table 4. 11

Examples of the Use of Constant Theme Progression in a Native Students' Essay

Theme 1	Rheme 1
The manager, who had been with the company for 15 years,	did not know how to type.
Theme 2	Rheme 2
He	could not stock or access the inventory fast enough
Theme 3	Rheme 3
And (he)	was laid off
Theme 4	Rheme 4
because he	was viewed as a defecit by the company.

In Table 4.11 above, how theme of the first clause constitutes the theme of the following clauses in a native student's essay can be seen. The theme "the manager" is repeated in the subsequent sentences; thus, this example represents a typical constant theme progression.

Table 4. 12

An Example of the Use of Linear Theme Progression in a Native Student's Essay

Theme 1	Rheme 1
How could people	live without the invention of the computer?
Theme 2	Rheme 2
Computers	have become a part of everyday life for many people.

Table 4.12 above demonstrates how the use of linear theme progression in a native student's essay is coded. In the example, it can be seen that the rheme of the first sentence "computer" becomes the theme of the following clause.

Table 4. 13

An Example of the Use of Split Rheme Progression in a Native Student's Essay

Theme 1	Rheme 1
Kalamazoo	has 1 large university, 1 private college and two "community-2 yr." colleges.
Theme 2	Rheme 2
The large & private universities	are within walking distance of downtown Kalamazoo.

In an extract taken from a native student's essay, an example of split rheme progression is demonstrated in the Table 4.13 above. The rheme of the first clause consists of three subtopics that are "1 large university", "1 private college" and "two "community-2 yr." colleges". Two of these sub-topics "the large & private universities" that constitutes the rheme of the first clause become the theme of the second clause.

Table 4. 14

An Example of the Use of Derived Theme Progression in a Native Student's Essay

Theme 1	Rheme 1
Contact lenses	are a part of my everyday life.
Theme 2	Rheme 2
In the early stages of contact lenses, a style called "hard lenses"	were the only kind made.
Theme 3	Rheme 3
Once "soft lenses" were introduced to the public,	the "lense craze" caught rapidly.

It can be understood from the Table 4.14 above that the theme one “contact lenses” is derived in the themes of the subsequent clauses as “hard lenses” in the theme 2, and “soft lenses” in the theme 3.

Table 4. 15

Examples of the Use of Constant Theme Progression in a Non-native Student’s Essay

Theme 1	Rheme 1
Developed countries	Have more policies than undeveloped countries.
Theme 2	Rheme 2
Because they	know how important protect the world.
Theme 3	Rheme 3
They	Filter factory flue.
Theme 4	Rheme 4
Also developed countries	make recycling devices.
Theme 5	Rheme 5
They	spend more time on such things because
Theme 6	Rheme 6
they	are more aware of their surroundings.

Instances of how the coding of constant theme progression is carried out are demonstrated in the Table 4.15 The theme of the first clause “developed countries” constitutes the themes of the following sentences as well.

Table 4. 16

The Use of Linear Theme Progression in a Non-native Student’s Essay

Theme 1	Rheme 1
Nowadays, nearly in every part of our life	are conservation policies.
Theme 2	Rheme 2
Conservation policies	include a lot of subcategories like duty policy or the protection of the environment and culture.

The Table 4.16 indicates the use of linear pattern in a non-native students essay. The rheme 1 “conservation policies” becomes the theme of the following sentence.

Table 4. 17

The Use of Split Rheme Progression in a Non-native Student's Essay

Theme 1	Rheme 1
People's lives	depend on some source such as food, water, nature, and wildlife to continue their lives.
Theme 2	Rheme 2
Food	is the most important and basic need for the people just like other living creatures.
Theme 3	Rheme 3
For example, water	will be depleted due to excessive use.

In the table 4.17 the use of split rheme progression in a non-native student's essay is exemplified. It can be seen that the ideas presented in the rheme 1 "food" and "water" split into the themes of following clauses in theme 2 and theme 3.

Table 4. 18

The Use of Derived Theme Progression in a Non-native Student's Essay

Theme 1	Rheme 1
Vaccination	should be compulsory.
Theme 2	Rheme 2
When we get the HBV vaccination injected five times	we don't become HBV illnesses.
Theme 3	Rheme 3
In addition, tetanus vaccination	protects us for five years.

As it is illustrated in Table 4.18, there is the case of derived theme progression since a broader theme "vaccination" in the first clause is derived into "HBV vaccination" and "tetanus vaccination" in the subsequent clauses in an excerpt taken from a non-native student's essay.

Table 4. 19

Mann Whitney U Test for the Use of Constant Theme, Linear Theme, Derived Theme/ Split Rheme Progression in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Constant Theme Progression	Native	30	24.73	742	277	0.01	-2.56
	Non-native	30	36.27	1088			
Linear Progression	Native	30	33.52	1005.5	359.5	0.177	-1.34
	Non-native	30	27.48	824.5			
Derived Theme/ Split Rheme Progression	Native	30	32.33	970	395	0.259	-1.13
	Non-native	30	28.67	860			

*p<0.05 **p<0.01

As it can be seen from Table 4.19, the results showed statistically significant difference in the use of constant theme progression structures between native and non-native students' essays (U=277, p<0.05). The results showed that non-native students (36.27) had a significantly higher mean rank score of constant theme progression than native students' (24.73) in their essays.

The findings also indicated that there was no significant difference as to linear progression between the two groups (U =359.5, p>0.05). Although there was no significant difference between native and non-native students' essays in terms of linear progression, native students' essays (33.52) had a higher mean rank of linear progression than non-native students' essays (27.48).

Moreover, there was no significant difference as to derived theme, and split rheme progression between native and non-native students' essays (U =395.0, p>0.05). The mean rank of derived theme and split rheme progressions of native and non-native students' essays were nearly the same.

4.4. The Use of Marked and Unmarked Theme

Table 4. 20

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Marked and Unmarked Themes

	Nationality	Frequency	Mean per essay	Percentage based on total
Unmarked theme	Native	893	29.76	97.60 %
	Non-native	1182	39.40	97.85%
Marked theme	Native	22	0.73	2.40 %
	Non-native	26	0.86	2.15%
Total	Native	915	32.16	100 %
	Non- native	1208	40.26	100 %

The Table 4.20 above illustrated that the percentage of unmarked themes (97.60 %) in native students' essays was higher compared to the percentage of marked themes (2.40 %). Similarly, the percentage of unmarked themes (97.85 %) in non-native students' essays was higher compared to the percentage of marked themes (2.15 %).

According to the results, native students had 219 less themes than non-native students in their writings. It could be explained by the fact that native students had fewer clauses in their essays and the clauses they used were mostly independent. On the other hand, non-native students had more dependent and embedded clauses in comparison to native students in their essays.

Table 4. 21

T-test for the Use of Unmarked Themes in Native and Non-Native Students' Essays

	Nationality	N	Mean	Std. Deviation	t	df	P
Unmarked Theme	Native	30	29.766	7.977	-3.972	58	0
	Non-native	30	39.400	10.620			0

*p<0.05 **p<0.01

The t-test found statistically significant difference in the use of unmarked theme structures in native and non-native students' essays ($t(58) = -3.972, p < 0.01$) (see Table 4.21.). The findings indicated that with regard to unmarked theme the mean score of non-native students' essays ($X = 39.400$) was significantly higher than the mean score of native students' essays ($X = 29.766$).

Table 4. 22

An Example of the Use of Unmarked Theme in a Non-Native Student's Essay

Unmarked Theme	Rheme
People	cannot live without basic needs.

The use of unmarked theme in non-native students' writings is illustrated in the table 4.22 above.

Table 4. 23

An Example of the Use of Unmarked Theme in a Native Student's Essay

Unmarked Theme	Rheme
Kalamazoo, like most American cities,	began surrounding the central means of transportation.

In the Tables 4.23 above, an instance of the use of unmarked theme in a native student's essay can be seen. In the Table 4.23., "Kalamazoo" acts as an unmarked theme.

Table 4. 24

Mann Whitney U Test for the Use of Marked Theme in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Marked Theme	Native	30	29.93	898	433	0.779	-0.28
	Non-native	30	31.07	932			

* $p < 0.05$ ** $p < 0.01$

As shown in Table 4.24, there was no significant difference between native and non-native students in the use of marked theme ($U=433, p>0.05$). There was no significant difference between the two groups, the findings indicated that non-native students' essays had a similar mean rank of marked theme (31.07) to native students' essays' mean rank (29.93).

Table 4. 25

An Example of the Use of Marked Theme in a Non-Native Student's Essay

Marked Theme	Rheme
In the past	people could travel to other countries without a visa.

In the Table 4.25 an example of a marked theme constituted by a prepositional phrase in a non-native student's essay is demonstrated.

Table 4. 26

An Example of the Use of Marked Theme in a Non-Native Student's Essay

Marked Theme	Rheme
On social media	we all use abbreviations and connected words.

In the Table 4.26 an example of a marked theme constituted by a prepositional group in a non-native student's essay is demonstrated.

Table 4. 27

An Example of the Use of Marked Theme in a Native Student's Essay

Marked Theme	Rheme
In offices	the computer is everywhere.

In the Table 4.27 above, an example of a marked theme constituted by a prepositional group in a native student's essay is demonstrated.

Table 4. 28

An Example of the Use of Marked Theme in a Native Student's Essay

Marked Theme	Rheme
In the past	this type of discrimination, which includes more than blacks African Americans, but also other ethnicities and women, has been accepted as a way of life.

In Table 4.28 above, an example of a marked theme constituted by a prepositional group in a non-native student's essay is demonstrated.

Table 4. 29

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Grammatical Cohesion

	Nationality	Frequency	Mean per essay	Percentage based on total
Reference	Native	2272	7573	73.17 %
	Non-native	2362	78.73	73.08%
Conjunction	Native	786	26.20	25.31 %
	Non-native	833	27.76	25.77%
Ellipsis	Native	38	1.26	1.22 %
	Non-native	34	1.13	1.05%
Substitution	Native	9	0.30	0.28 %
	Non-native	3	0.10	0.09 %
Total	Native	3105	103.49	100 %
	Non-native	3232	107.72	100 %

Among the four categories of grammatical cohesion devices in native speaker essays, reference constituted the highest percentage of usage (73.17 %), followed by conjunctions (25.31 %), ellipsis (1.22 %), and substitution (0.28 %) For the frequencies, mean scores, and percentages for grammatical cohesion see the Table 4.29.

4.5. The Use of Substitution and Ellipsis

The results for the use of substitution and ellipsis in the essays of native and non-native students are illustrated in this section.

Table 4. 30

Examples of the Use of Substitution in Native and Non-Native Students' Essays

NS	NNS
We now have ATM, automatic teller machines that are able to proceed with the same transactions as a teller would do . (verbal substitution)	Secondly there are a lot of people who find the laws inadequate so people damage the world and slip through the net. They damage not only the natural beauties but also the historical ones . (nominal)
Clearly, of the inventions of this century, the one that has made the most impact on world views and lifestyle is the television. (nominal)	

In the Table 4.30 the coding of substitution of nouns and verbs in the essays of native and non-native students is illustrated.

Table 4. 31

Mann Whitney U Test for the Use of Substitution in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Substitution	Native	30	32.55	976.5	388.5	0.16	-1.40
	Non-native	30	28.45	853.5			

*p<0.05 **p<0.01

As can be seen from Table 4.31 above, there was no significant difference between native and non-native students in the use of substitution (U =388.5, p>0.05). The mean rank of substitution was nearly the same in the essays of both groups of students.

Table 4. 32

Examples of the Use of Ellipsis in Native and Non-Native Students' Essays

NS	NNS
<p>Since I was twelve, I had an intense desire to learn Spanish, and because of these circumstances, that I mentioned before, I had no choice but to wait until I was twenty years old to even begin to learn this language. Mine is not the only experience like this. (nominal)</p> <p>There neighborhoods don't get financial support and money is not spent in the stores near them. If they could have more money and leave, the majority would. (verbal)</p>	<p>To minimize our impacts on animals, governments have to put some conservation policies on practice. They can create habitats for animals or stay away from them...(nominal) We are responsible not only for animals but also for environment. (clausal)</p>

In the Table 4.32 above the coding of ellipsis of nouns, verbs, and clauses in the essays of native and non-native students is illustrated.

Table 4. 33

Mann Whitney U Test for the Use of Ellipsis in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Ellipsis	Native	30	30.03	901	436	0.828	-0.21
	Non-native	30	30.97	929			

*p<0.05 **p<0.01

Table 4.33 above demonstrated that there was no significant difference between native and non-native students in the use of ellipsis (U =436.0, p>0.05). The mean rank of ellipsis was nearly the same in the essays of both groups of students.

4. 6. The Use of Conjunctive Adjuncts

The use of conjunctive adjuncts under the categories extension, enhancement, and elaboration is analyzed in this part.

Table 4. 34

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Conjunctive Adjuncts

	Nationality	Frequency	Mean per essay	Percentage based on total
Extension	Native	526	17.53	66.92 %
Enhancement	Non-native	425	14.16	51.02 %
	Native	205	6.83	26.08 %
Elaboration	Non-native	250	8.33	30.01 %
	Native	55	1.83	6.99 %
Total	Non-native	158	5.26	18.96 %
	Native	786	26.20	100 %
	Non-native	833	27.76	100 %

The Table 4.34 above illustrates the numbers of the distribution and density of conjunctions in native students' essays. Among the three categories of conjunctions, extension conjunctions (66.92 %) constituted the largest percentage of usage, followed by enhancement (26.08 %), and elaboration (6.99 %) conjunctions. Elaboration conjunctions occurred only 55 times in the 30 essays. The cohesive devices with the highest frequency were 'and', 'also', 'when'. *And* was the most frequent device used by students, while among adversatives 'however' was the most frequently used cohesive device. 'Although', 'yet', and 'though' were rarely used. Among causal devices 'because' and 'as' were the most frequently used items whereas 'therefore', 'thus', and 'then' were scarcely found. Concerning temporal devices 'when' and 'after' were the most frequent devices in native speaker essays. There were rare instances of 'during', 'once', and 'since'.

It is also illustrated in Table 4.34 above that in terms of the distribution and density of conjunctions in Turkish learners of English students' essays; similarly, extension conjunctions were the most frequently used conjunction type (51.02 %), followed by enhancement (30.01 %), and elaboration (18.96 %) conjunctions. Among additives, 'and' was the most frequently used device followed by 'also'. 'Moreover', 'in addition', and 'besides' had a small percentage of usage. As to adversatives, 'but' had the highest frequency. On the other hand, 'however', 'even though' and 'despite' were seldom made use of. In causal category, 'so' and 'because' had the highest number. Items as 'that's why', and 'therefore' was rarely

used by students among this category. Lastly, among temporal devices, the most frequent one was ‘when’, and ‘while’. However, conjunctions such as ‘after’, ‘then’, and ‘once’ was hardly ever used.

Table 4. 35

Examples of the Use of Elaboration in Native and Non-Native Students’ Essays

NS	NNS
<p>1.No, I'm not engulfed in the typical ethnocentric idealism of a citizen from the United States. Rather, I'm feeling patriotic because I can look around the world today and see that it is becoming a better place to live for people of all nations. (elaboration/corrective)</p> <p>2. In conclusion, as the turn of the century slowly approaches, I look back with a feeling of accomplishment as well as anticipation as to what lies ahead. (elaboration/summative)</p>	<p>1.In conclusion, conservation policies have a good aim theoretically and every country should have different kinds of these policies for their country and their people. (elaboration/summative)</p> <p>2. For example, this third world countries might not afford expensive products, their economy may not be equal with the countries’ economy that they import or maybe their equipment may not be essential enough to meet the trade (elaboration/appositive)</p>

In the analysis of conjunctive adjuncts used in essays, conjunctions that are under the categories of appositive, corrective, and summative are coded as elaboration conjunctions as can be seen in Table 4.35.

Table 4. 36

Examples of the Use of Extension in Native and Non-Native Students’ Essays

NS	NNS
<p>1.Besides the obvious higher level of enjoyment television watching may bring its viewer, the most important aspect of this creation is its ability to bring the worlds together. (extension/additive)</p> <p>2.The television strength must be realized, however, as it does have the power to reach so many and persuade so many more. (extension/adversative)</p>	<p>1. Also, if you’re homeless, unemployed or orphan the country which you live in should have policies to protect your life and to support you to maintain your life. Moreover, even if you are guilty and prisoner, you have inherent rights like every person has. (extension/additive)</p> <p>2.On the other hand, these trade conservation policies may have some negative sides for countries. (extension/adversative)</p>

In the analysis of conjunctive adjuncts used in essays, conjunctions that are under the categories of additive and adversative are coded as extension conjunctions as can be seen in Table 4.36.

Table 4. 37

Examples of the Use of Enhancement in Native and Non-Native Students' Essays

NS	NNS
1. Before the late 1940's entertainment, news, and information virtually all came through newspapers & radio. (enhancement/temporal)	1. When a product is bought from another country, countries make agreements each other. (enhancement/temporal)
2.Where once a reporter's voice described a scene, now the people could see for themselves what was happening because , for the most part, it was happening in front of their eyes. (enhancement/causal)	2.These policies avert possible malfunctions, handicaps and errors, thus products are imported safely. (enhancement/causal)

In the analysis of conjunctive adjuncts used in essays, conjunctions that are under the categories of temporal, and causal are coded as enhancement conjunctions as can be seen in Table 4.37.

Table 4. 38

Mann Whitney U Test for the Use of Conjunctive Adjuncts in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	P	Z
Elaboration	Native	30	19.65	589.5	124.5	0	-4.84
	Non-native	30	41.35	1240.5			
Extension	Native	30	30.1	903	438	0.859	-0.17
	Non-native	30	30.9	927			
Enhancement	Native	30	28	840	375	0.265	-1.11
	Non-native	30	33	990			

*p<0.05 **p<0.01

As seen in Table 4.38, the results showed that there was a statistically significant difference in the use of elaboration conjunctive conjunctions structures in native and non-native students' essays (U=124.5, p<0.01). The findings indicated that non-native students' essays had a significantly higher mean rank of elaboration conjunctions (41.35) than native students' essays (19.65).

Also, there was no significant difference between native and non-native students in the use of extension (U=438.0, p>0.05). Thus, the findings indicated that

the use of extension conjunctions was nearly the same for both groups. The mean rank of extension conjunctions used by native students was fairly similar to the mean rank of extension conjunctions in non-native students essays. The mean ranks of native and non-native students' essays were (30.1) and (30.9) respectively. There was also no significant difference between native and non-native speakers in the use of enhancement conjunctions ($U = 375.0, p > 0.05$). However, the findings indicated that non-native students' essays had a higher mean rank of enhancement conjunctions (33) than native students' essays (28).

4. 7. The Use of Reference

The results of the SPSS statistics for use of six references categories are demonstrated in this section.

Table 4. 39

Examples of the Use of Anaphoric Reference in Native and Non-Native Students' Essays

NS	NNS
<p>Ted Turner revolutionized the use of the satellite, with his creation of CNN, the round-the-clock, round-the-world news station. Presidents and dictators alike switch the channel to receive first hand information from the network, such as impeachments, coup d'etats or civil wars.</p>	<p>Almost all of them are using abbreviations or new words which are created by users. Some people are in favor of this idea, but, of course, some people are against it. If the new words are included in dictionaries, it enlarges vocabulary.</p>

When a lexical item refers backwards to a previously mentioned element in a text, it is coded as anaphoric reference (see Table 4.39).

Table 4. 40

Examples of the Use of Cataphoric Reference in Native and Non-Native Students' Essays

NS	NNS
<p>What the PC (personal computer) meant for society was an affordable tool that would help one sort out, save, delete or add and receive information in one's own home. This made it possible to write papers, look over databases, do your taxes and expense accounts, just about anything that you had to do.</p>	<p>In conclusion, both sides have its own reasons. Technology is improving so fastly that the language which is spoken needs to keep up with it.</p>

Words referring forward to another word that takes place in the subsequent parts of the text in a text, the reference used is coded as cataphoric reference (see Table 4.40).

Table 4. 41

Examples of the Use of Exophoric Reference in Native and Non-Native Students' Essays

NS	NNS
<p>There has been many inventions in the 20th century that have changed our everyday lives. Some have had a great impact, while others have not. The computer however in this, the information age, has had a great impact on how society and especially business gathers, creates, responds to and, understands everyday information.</p>	<p>In my opinion, new words should be in dictionaries and they need to become more universal. Because you can communicate with people from other nationalities in on the internet or social medias. Each people person needs to discern these new words or abbreviations. These words can make the communication easier. We can retrieve the dead words or the words that were forgotten, by this way, we can enrich the language.</p>

If an item points to information that is outside the text but can be recoverable from the context, it is coded as exophoric reference (see Table 4.41.)

Table 4. 42

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Reference Types

	Nationality	Frequency	Mean per Essay	Percentage based on total
Anaphoric	Native	675	22.50	48.49 %
	Non-native	977	32.56	75.61 %
Exophoric	Native	667	22.23	47.91 %
	Non-native	279	9.30	21.59 %
Cataphoric	Native	50	1.66	3.59 %
	Non-native	36	1.20	2.78 %
Total	Native	1392	75.71	100 %
	Non-native	1292	78.71	100 %

As it is shown in the Tables 4.42 above, among the three sub-categories of reference devices in native speaker essays, anaphoric reference (48.49 %) had the highest percentage of usage, followed by exophoric reference (47.91 %), and cataphoric reference (3.59 %).

Besides, in non-native student essays, anaphoric reference (75.61 %) had the highest percentage of use, followed by exophoric reference (21.59 %), and cataphoric reference (2.78 %).

Both native students (48.49 %) and Turkish students (75.61 %) used anaphoric references more frequently than other types of references. Also, both groups rarely used the cataphoric reference. That is, native students used it 50 times, while non-native students utilized it 36 times in total in all of the essays.

Table 4. 43

Examples of the Use of Personal Reference in Native and Non-Native Students' Essays

NS	NNS
<p>Today you can sit in your home at the terminal and create just about any form of document that you wish. You can use it to do just about any task you need it for. Also with the use of Modem you can tap into information sources through the phone on the other computers. You can, with a modem and a computer, receive and process all types of information that you might need.</p>	<p>Social media has huge effect in our lives. An average person spend three hours in social media. That means we have almost the same amount of time feeding ourselves. Social media can effect us. Actually, while using social media we do not only lose our time but also we lose our personality, language, morality.</p>

Then, in the analysis of personal references in native and non-native students' essays, the references carried out by personal pronouns to refer backwards to a person or an entity are coded as personal references as illustrated above in the Table 4.43.

Table 4. 44

Examples of the Use of Demonstrative Reference in Native and Non-Native Students' Essays

NS	NNS
<p>In 1980 IBM Corporation started a revolution that today continues full force to dominate our everyday lives; the invention of the personal computer... Since 1980 there have been many advances in the technology that was first made available because of this machine.</p>	<p>Since last five years there are many debates about new words from social media can be included in dictionaries and also there are sympathizers of this idea and opponents of this idea. Some say this application can be advantageous but its opponents have strong reasons not to be included in dictionaries.</p>

In the analysis of demonstrative references in the essays of native and non-native students' essays, the coding of demonstrative pronouns "this", "that", "these", and "those" are exemplified in the extracts from the data in the Table 4.44 above.

Table 4. 45

Examples of the Use of Comparative Reference in Native and Non-Native Students' Essays

NS	NNS
The creation of the satellite dish in the past 20 years, has altered the average intelligence of the human being for the better and sometimes worse . It has created an information age, which could be dangerous, and heightened an entertainer's salary. The pro's and con's of the satellite dish are numerous.	<ol style="list-style-type: none"> 1. An average person spend three hours in social media. That means we have almost the same amount of time feeding ourselves. 2. Except the other items, language is the most important form of communication.

Comparative adverbs such as *similar* and *other*, which symbolize a general perspective, and comparative adverbs that are more specific and narrower in scope such as *more* and *fewer* are coded as comparative references as can be seen in the Table 4.45 above.

Table 4. 46

Frequency, Mean, and Percentages for Native and Non-Native Students' Data of Reference Types

	Nationality	Frequency	Mean per Essay	Percentage based on total
Personal	Native	605	20.16	68.75 %
	Non-native	821	27.36	76.72 %
Demonstrative	Native	123	4.10	13.97 %
	Non-native	169	5.63	15.79 %
Comparative	Native	152	5.06	17.27 %
	Non-native	80	2.66	7.47 %
Total	Native	880	29.32	100 %
	Non-native	1070	35.65	100 %

As it is shown in the Table 4.46. above, among the three sub-categories of reference devices in native speaker essays, personal reference (68.75 %) had the highest percentage of usage, followed by comparative reference (17.27 %), and

demonstrative reference (13.97 %). Furthermore, among demonstratives ‘this’ and ‘these’ were used more often than ‘that’ and ‘those’.

Similarly, in non-native student essays, personal reference (76.72 %) had the highest percentage of use, followed by demonstrative reference (15.79 %), and comparative reference (7.47 %). Similar to native speaker essays, ‘this’ and ‘these’ appeared more often than ‘that’ and ‘those’ among demonstrative devices. Also, ‘they’, ‘we’, and ‘it’ were used most prevalently among personal pronouns respectively.

Table 4. 47

T-test for the Use of Personal Reference in Native and Non-Native Students’ Essays

	Nationality	N	Mean	Std. Deviation	t	df	P
Personal Reference	Native	30	20.166	12.506	-2.156	58	0.035
	Non-native	30	27.366	13.345			

*p<0.05 **p<0.01

As it is illustrated in Table 4.4, a significant difference was found between native and non-native students’ essays on personal reference ($t(58) = -2.156$, $p < 0.05$). The mean score of non-native students’ essays for use of personal reference ($\bar{X} = 27.366$) was significantly higher than the mean score of native students’ essays ($\bar{X} = 20.166$).

Table 4. 48

Mann Whitney U Test for the Use of Anaphoric, Cataphoric, and Exophoric References in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	Sig. (2-tailed)	Z
Anaphoric Reference	Native	30	25.22	756.5	291.5	0.019	-2.34
	Non-native	30	35.78	1073.5			
Cataphoric Reference	Native	30	34.05	1021.5	343.5	0.099	-1.65
	Non-native	30	26.95	808.5			
Exophoric Reference	Native	30	41.4	1242	123	0	-4.84
	Non-native	30	19.6	588			

*p<0.05 **p<0.01

As seen Table from 4.48, there was a significant difference between native and non-native students in the use of anaphoric references and exophoric references. Non-native students used significantly more anaphoric references (U=291,5, p<0.05) than native students. Also, native students used a significantly higher number of exophoric references (U=123, p<0.01).

On the other hand, there was no significant difference between native and non-native students in the use of cataphoric reference (U =343.5, p>0.05). Although no significant difference was found between the two groups, the findings indicated that native students' essays had a higher mean rank of cataphoric reference (34.05) than non-native students' essays (26.95).

Table 4. 49

Mann Whitney U Test for the Use of Demonstrative and Comparative References in Native and Non-Native Students' Essays

	Nationality	N	Mean Rank	Sum of Ranks	U	Sig. (2-tailed)	Z
Demonstrative Reference	Native	30	30	900	435	0.823	-0.22
	Non-native	30	31	930			
Comparative Reference	Native	30	30	35.55	298.5	0.024	-2.26
	Non-native	30	31	25.45			

*p<0.05 **p<0.01

As can be seen from Table 4.49 above, there was no significant difference between native and non-native students in the use of demonstrative reference (U =435.0, p>0.05). However, the findings indicated that non-native students' essays had a higher mean rank of demonstrative reference (31) than native students' essays (30).

However, there was a significant difference between native and non-native students in the use of comparative references. Native students used a significantly higher number of comparative (U=298.5, p<0.05) references.

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter discusses the results and findings from Chapter IV in order to answer the research questions, which this thesis aims to answer, which investigates cohesion in argumentative essays by undergraduate Turkish learners of English in comparison to undergraduate native students' essays. This chapter also outlines the main findings of this study and discusses these findings with respect to previous literature and studies in this field. Implications of these findings and suggestions for further research will also be discussed.

5.2. Cohesive Devices Used By Non-native Students

Research question 1 was concerned with kinds of cohesive devices and thematic patterns used in argumentative writings by undergraduate non-native learners of English. To this end, lexical cohesion, grammatical cohesion, and thematic progression patterns of students' essays were investigated. Among non-native students' essays, reference was used with the highest frequency, followed by repetition, conjunction, collocation, texture, synonym, antonym, superordinate, ellipsis, and substitution. This confirmed previous findings in the literature (Alarcon & Morales, 2011; Dueraman, 2007; Zarepour, 2016). For instance, Zarepour's (2016) findings also showed that reference was the most commonly used cohesive device by Iranian advanced EFL learners. In line with the findings of this study, in another study with argumentative and narrative essays written by second year ESL students at medical department, both Thai and Malaysian language learners used reference and conjunction more than reiteration and collocation (Dueraman, 2007).

This study, on the other hand, did not confirm some previous findings regarding cohesion as some researchers (Dastjerdi & Samian, 2011; Liu & Braine, 2005; Meisuo, 2000) found that lexical devices were used more than references and conjunctions. For instance, as opposed to the findings of this study, Liu and Braine's

(2005) study of cohesion on ESL Chinese undergraduate non-English majors showed that the most common cohesive device was lexical device, followed by references and conjunctions. Meisuo's (2000) findings also showed that lexical devices were utilized the most, followed by conjunctions and reference devices. Lexical cohesion was also the mostly used cohesive device, followed by reference, and conjunction in Bae' (2001) study in Korean ESL context. Among references, pronominal reference was the mostly used one, followed by proper nouns.

As to conjunctions, extension conjunctions were the most frequently used conjunction type in Turkish learners of English students' essays, followed by enhancement, and elaboration conjunctions. The results of this study shared a number of similarities with Alarcon and Morales' (2011) findings, where extension/addition, adversative, extension/addition, positive, and enhancement/ causal, conditional were the most commonly used conjunctive adjuncts. Also, in Bae's (2001) study, the most frequently used conjunctions were enhancement/ temporal, followed by extension/ additives. It can be claimed that these types of conjunctions were used in the highest number because the nature of argumentative texts as the aim of the argumentative essay was to put forward an argument and convince the readers by supporting ideas. Also, in Keys' (1999) analysis of scientific essays written by ESL secondary school students, the mostly used conjunctive adjunct type was extension, followed by enhancements, and elaboration. The fact that extension conjunctive adjuncts are the mostly used category in non-native student's essays can be because of the use of conjunctions such as "and", "but" belonging to this category in high numbers as these conjunctions are learned earlier in English language learning classes. Also, language learners in Turkish EFL context are usually taught a list of conjunctions, and students are taught that if they use conjunctions to combine sentences a more cohesive essay can be constructed. Therefore, as in the case of this study Turkish learners of English can use these simple conjunctions in high numbers.

The non-native EFL students also used simple conjunctions like 'and', 'but' more than others like 'nonetheless', and 'furthermore' in this study. This was consistent with Jing's (2013) study in which students used the conjunction 'and' excessively. Dastjerdi and Samian (2011) asserted that as these conjunctions were

learned in early phases of language learning, students could feel more comfortable using them.

Contrarily, ellipsis and substitution were rarely used in non-native students essays in this study, which was in line with the findings of previous research (Bae, 2001; Tangkiengsirisin, 2010; Zarepour, 2016). For instance, Zarepour (2016) investigated essays written by 30 Iranian advanced EFL learners studying at English language teaching department, and the findings showed that ellipsis and substitution were also used the least in the study.

Among non-native students' essays, repetition of the same word had the highest frequency among lexical cohesion in non-native students' essays, followed by collocations, texture, synonyms, antonyms, and superordinates. This finding was in agreement with the findings of Tangkiengsirisin' (2010) experimental study in which repetition was the mostly utilized lexical cohesive device, followed by superordinates. Xuefan's (2007) examination of undergraduate students' narration and argumentation writings also showed that exact repetition was the most commonly used device, followed by collocations, synonyms, superordinates, and general words. Similarly, Crowhurst's (1987) study in argumentative and narrative papers written by sixth, tenth and twelfth graders also illustrated that in all grade levels of argumentative and narrative essays, repetition was the most frequently used device. Kadiri et al.'s results of the research on essays written by final year Nigerian ESL learners (2016) also showed that ESL students made use of repetition the most; and, synonyms and collocations were used minimally. Finally, Bae's (2001) results also indicated that ellipsis and substitution had relatively smaller number of use by Korean ESL learners.

As McGee (2008) states, repetition is a way of maintaining lexical cohesion, and it does not hinder understanding; however, it causes an overwhelming influence on the reader due to excessive repetition of the same word. The comparatively low number of lexical devices such as synonym and collocation could be because the use of these devices requires more proficiency and years of language learning experience. In compatible with this idea, Crowhurst's (1987) study with

argumentative and narrative papers written by sixth, tenth and twelfth graders illustrated that synonym and collocation frequency significantly increased with age.

The percentage of unmarked themes in non-native students' essays was higher compared to the percentage of marked themes in this study. In good agreement with the findings of this study, Ebrahimi and Ebrahimi's (2012) study on undergraduate EFL illustrated that marked theme was rarely used in students' essays. Yunita's (2018) study with eleventh grade students also found out that students made use of unmarked theme more than marked theme. When theme is put in subject position, grammatically accurate sentences could be formed. Thus, students could generate sentences consisting of a noun phrase followed by a verb phrase, which forms an acceptable word order in English. This way of forming sentences is considered as a quality of non-native speaker writing. It is also probable that students may consider English as having a rigid word order. For this reason, fronting devices had better be introduced to EFL students for arranging information and emphasizing objects or adverbials (Jalilifar, 2010).

As to thematic patterns, the most frequently utilized thematic progression type in non-native students' essays was constant theme, succeeded by simple Linear, and derived theme progressions. Although this finding was in contrast to Fontaine and Kodratoff's (2003) and Weissberg's (1984) studies in the ESL context in which it is observed that linear pattern was the most prevalent pattern, and the constant progression rarely occurred, it was in good agreement with a number of previous literature. For instance, in Rakhman's (2013) study, Indonesian EFL learners used constant theme progression the most, followed by simple linear pattern and derived theme progression. In parallel with the findings of this study, in Yunita's (2018) study with eleventh grade students it was also found that constant theme progression was used in students' essays with the highest frequency, and it was followed by linear progression, derived theme and split rheme patterns. Other studies also found the constant progression pattern to be the most prevalent structure, among thematic progression types in non-native students' essays and as the proficiency level got higher the use of linear pattern increased (Belmonte & Hidalgo, 1998; Herriman, 2011; Jalilifar et al., 2017; Jalilifar, 2010; Rakhman, 2013; Rosa, 2007; Soleymanzadeh & Gholami, 2014; Wang, 2007). The higher occurrence of constant

theme in comparison to linear, derived and split rheme patterns could suggest that as constant progression simplifies the text, it becomes possible for readers to comprehend information in a text more easily (Jalilifar et al., 2017). However, it can also mean that overreliance on constant progression can make a text appear too simple.

5.3. Cohesive Devices used by Native Students

Research question 2 was concerned with kinds of cohesive devices and thematic patterns used in argumentative writings by undergraduate native speakers of English. According to the results, among native students' essays, reference was used with the highest frequency, followed by repetition, conjunction, collocation, texture, synonym, superordinate, antonym, ellipsis, and substitution.

In terms of lexical cohesion, repetition of the same word had the highest percentage of use in native students' essays, followed by collocation, texture, synonym, superordinate, and antonym. Native students were inclined to adopt repetition more often than collocation, texture, synonym, superordinate-hyponym, and antonym. In line with the findings of this study, Mirzapour and Ahmadi's (2011) study showed that repetition was also the mostly used cohesive device in native students' essays, and it was succeeded by collocation, synonym, general noun, meronymy, hyponymy, and antonym in native students' essays. Additionally, Johnson's (1992) findings showed that essays written in English by native students included more reference and conjunction than reiteration and collocation. Nevertheless, in contrast with the results of this study, Connor's (1984) analysis on native students demonstrated that native students made use of collocation the most and that they used lexical reiteration to a lower degree.

Among the four categories of grammatical cohesion devices in native speaker essays, reference was used the most, followed by conjunctions, ellipsis, and substitution. The use of substitution and ellipsis in undergraduate native students' essays in this study was rare. While substitution was used nine times, ellipsis was used thirty-eight times in thirty undergraduate native students' essays. This finding

supported previous literature on substitution and ellipsis use in written discourse studies (Alarcon & Morales, 2011; Zarepour, 2016).

Among the three categories of conjunctions, extension conjunctions were used the most followed by enhancement, and elaboration conjunctions in native students' essays. Among the six sub-categories of reference devices in native speaker essays, anaphoric reference was used the most, followed by exophoric references, personal references, comparative references, demonstrative references, and cataphoric references.

In the essays of native speakers of English, constant theme progression was the most frequently used thematic structure, followed by simple linear and derived theme and split rheme progressions. As opposed to the findings of this study, Wenyan's (2012) study in medical papers written English students demonstrated that the linear thematic progression was the most frequent pattern. Also, Yang et al.'s (2007) research showed that the native speaker used thematic progression in a wider range of variety and used the linear progression the most. Fontaine and Kodratoff (2003) also found that the mostly used thematic progression type in native students' essays was linear thematic progression, followed by constant theme progression. Herriman's (2011) analysis of Swedish advanced learners' argumentative writings in comparison to LOCNESS corpus of native speaker essays also showed that linear progression was the mostly used type by native students. The finding that simple linear is used a lot could suggest that in these texts rheme is further elaborated, and new information in rheme is expanded, so the texts affects readers more powerfully. In this way, readers could comprehend the point of departure and expanding of information, and it forms cohesion in texts. It also implies that there could be a shared knowledge background between the reader and the writer (Wang, 2007). According to Nwogu and Bloor (1991), simple linear progression is the expected structure in argumentative writing because it allows the information to be organized to achieve its purpose (cited in Rakhman, 2013). The fact that the constant theme progression was the prevalent pattern in native students' essays in this study could be because some instances of linear progression in students' essays were considered as non-representative of linear pattern as the idea introduced in the rheme was not developed in the following themes in the essays analyzed. The idea introduced in the

rheme was simply repeated in the following themes, so they were taken as constant theme progression in the analysis of this study.

Contrary to the idea that native speaker norm is in favor of the use of marked theme, some studies found that native students used unmarked themes more in their essays (Jalilifar, 2010; Liu & Tucker, 2015). Thus, there are contradicting results regarding this issue. In this study, the use of unmarked themes in native students' essays was in higher frequency compared to the use of marked themes.

5.4. Comparison between Native and Non-native Students in the Use of Cohesive Devices

Research question 3 was concerned with the similarities and differences in terms of cohesion and thematic pattern in argumentative essays created by undergraduate Turkish learners of English and undergraduate native speakers of English. Among twenty-two dimensions of cohesion investigated, non-native students' essays illustrated a significant difference from native students' essays in 11 dimensions, which was consistent with the major findings of previous studies. Thus, the results suggested that undergraduate Turkish learners of English deviated from undergraduate native students in their use of repetition, synonym, superordinate, texture, constant theme progression, unmarked theme, elaboration, personal reference, comparative reference, anaphoric reference, and exophoric reference.

First of all, undergraduate Turkish learners of English and undergraduate native speakers of English were statistically different in their use of repetition in their argumentative essays. That is, non-native students used repetition significantly higher than native students. According to results of the analysis of Mirzapour and Ahmadi's (2011) study, repetition was also the mostly used cohesive device both in native and non-native students' essays. As Guthrie (2008) asserted, students might use lexical repetition too much because they had not yet attained more intricate ways to form lexically cohesive texts by synonym or superordinates.

Undergraduate Turkish learners of English and undergraduate native speakers of English were also statistically different in their use of synonym in their

argumentative essays. Native students' essays had a significantly higher mean rank of synonyms than non-native students' essays. Other studies also found a significant relationship between age and the use of synonym. For instance, Crowhurst's (1987) study in argumentative and narrative papers written by sixth, tenth and twelfth graders illustrated that synonym frequency significantly increased with age. Age factor in these studies could be attributed to years spent in learning English. Thus, as a student's grade gets higher, she or he would be more likely to reach a native-like proficiency level in a foreign language. Also, native students might not be inclined to use repetition as much as non-native student group because they have a more extensive knowledge of vocabulary, and they avoid having a boredom effect on the reader (Rahman, 2013). However, in contrast with the findings of this study, in which reference was the mostly used cohesive device by native and non-native students, according to results of the Mirzapour and Ahmadi's (2011) study with Persian and English research articles in language, linguistics, and literature fields, repetition was the mostly used cohesive device both in native and non-native students' essays, followed by synonyms, collocations, antonyms, hyponyms, meronymy, and general nouns.

The analysis of essays also showed that undergraduate Turkish learners of English and undergraduate native speakers of English were statistically different in their use of superordinates in their argumentative essays. That is, native students used superordinates significantly more than non-native students. However, there was no statistically significant difference as to the use of antonyms in the essays of undergraduate Turkish learners of English and undergraduate native speakers of English. All the same, native students' essays had a higher mean rank of antonyms than non-native students' essays.

No statistically significant difference in the use of collocation in their argumentative essays could be found between native and non-native students' essays either. However, in this study native students' use of collocations had a higher mean score than that of non-native students. Connor (1984) also examined six argumentative essays written by advanced level ESL learners and native students. In consistence with the results of this study, native students made use of collocations the most and they used lexical reiteration to a lower degree, whereas ESL learners

used lexical reiteration the most, and they used a lower number of synonyms and collocations. Nevertheless, in contrast with the findings of this study, Johnson's (1992) findings showed that essays written in English by EFL learners had a higher number of reiteration and collocation, whereas essays written in English by native students included more reference and conjunction. When students' essays have collocation ties to form cohesion, according to McCulley (1985), it is a feature that best illustrates the writing quality (as cited in Guthrie, 2008). Moreover, there was a statistically significant difference in their use of texture in the essays of undergraduate Turkish learners of English and undergraduate native speakers of English, and non-native students used texture significantly higher than native students.

Regarding the use of substitution, there was no statistically significant difference between undergraduate Turkish learners of English and undergraduate native speakers of English. The mean rank of substitution was nearly the same in the essays of both groups of students. Both groups of students used substitution rarely. There were only twelve occurrences of substitution as a cohesive item in sixty essays of native and non-native students' essays analyzed. This result supported previous findings in the literature examining lexical cohesive device use of students' essays (Alarcon & Morales, 2011; Zarepour, 2016).

The essays were not also significantly different in their use of ellipsis in their argumentative essays. The mean rank of ellipsis was nearly the same in the essays of both groups of students. There were only seventy-two occurrences of ellipsis as a cohesive item in sixty essays by native and non-native students. This result matched well with other studies carried out examining lexical cohesive device use of students' essays (Bae, 2001; Zarepour, 2016). In addition, instruction on cohesion was not found influential in attaining the use of ellipsis skill in writing either. For instance, Tangkiengsirisin (2010) found no significant increase in the use of substitution after instruction on cohesion theory. Ellipsis and substitution were rarely used both by native and non-native students in the study too. This result was not unexpected as they were used more often in oral language than in written language (Halliday and Hasan, 1976).

On the other hand, in their use of elaboration conjunctions undergraduate Turkish learners of English and undergraduate native speakers of English were statistically different. The findings indicated that non-native students used elaboration conjunctions significantly higher than native students. However, undergraduate Turkish learners of English and undergraduate native speakers of English were not statistically different in their use of extension conjunctions. The findings indicated that the use of extension conjunctions was nearly the same for both groups. There was no significant difference in the use of enhancement conjunctions either. Nevertheless, non-native students' essays had a higher mean rank of enhancement conjunctions than native students' essays. Furthermore, in Granger and Tyson's (1996) study, native students used conjunctions that had a richer variety in their essays than non-native students' essays as well.

Another significantly different finding was the use of personal reference. Non-native students used personal references significantly more than native students. Reference was used to a great extent, as the reference types are either in subject, object, or modifier position (Alarcon & Morales, 2011). Whereas non-native students used 821 personal pronouns, native students used them 605 times. As Rahman (2013) points out students might avoid repetition by using personal and demonstrative pronouns. Furthermore, undergraduate Turkish learners of English and undergraduate native speakers of English were statistically different in their use of comparative reference in their argumentative essays; that is, non-native students used a significantly higher number of comparative references than native students. However, there was not any statistically significant difference between native and non-native students' essays in terms of demonstrative reference use. However, non-native students' essays had a higher mean rank of demonstrative references than native students' essays.

In the use of anaphoric reference, native and non-native students' essays illustrated a statistically significant difference as well. Non-native students used anaphoric reference significantly more frequently than native students. Similarly, there was a significant difference in the use of exophoric references. Native students' essays had a significantly higher number of exophoric reference than non-native students' essays. Among exophoric references, the definite article 'the' constituted

the highest number of use in native students' essays. It might be due to the structure of Turkish language, which is distinct from English, as the definite article 'the' does not exist in Turkish. Therefore, Turkish learners of English had difficulties in the use of the definite article, which might explain the lower occurrence of exophoric reference in non-native students' essays. However, the use of cataphoric references was not statistically different in students' writings. Nonetheless, native students' essays had a higher mean rank of cataphoric reference than non-native students' essays. Therefore, native students' essays showed a more variety of use in terms of reference types.

Among thematic progression categories, undergraduate Turkish learners of English and undergraduate native speakers of English used constant theme progression statistically differently in their argumentative essays. According to the results of this study, non-native students used constant theme progression significantly more than native students. This finding was in line with previous studies (Hawes & Thomas, 1997) in that as the proficiency level got higher and closer to native speaker norm, language learners were more inclined to use less constant progression in information distribution in their writings. Also, as constant progression was used to a great extent, it would be easier to decode information in texts, especially in non-native students' essays. On the other hand, the use of constant progression excessively was also considered to be a deficit in argumentative writings, as linear progression was considered more suitable because of its nature (Soleymanzadeh & Gholami, 2014). In addition, according to results of Wenyan's (2012) study in medical papers written by Chinese learners of English and native speakers of English, the linear thematic progression was the most frequent one between two groups, and the native speakers of English used the simple linear progression pattern more than ESL writers. In line with the findings of this study, Yang et al.'s (2007) research showed that a native speaker used thematic progression in a wider range of variety than a Chinese speaker of English, and the Chinese learner used less linear progression than the native speaker.

Another finding that was in consistency with previous studies was the use of simple linear progression pattern. Undergraduate Turkish learners of English and undergraduate native speakers of English were not statistically different in their use

of linear progression in their argumentative essays. However, native students' essays had a higher mean rank of linear progressions than non-native students' essays (Jalilifar, 2010; Wenyan, 2012; Yang et al., 2007).

Even though there was also a high frequency of linear theme pattern in non-native student essays in this study, most of the themes were mainly simply repetition of the same word. That is, most of the themes were derived from the same rhemes in preceding clauses, and they were not further elaborated on the following themes. On the other hand, in writings of native students there were a variety of themes; so, themes were derived from the same rheme; however, they were not simply repetition of the same word all the time. The finding that simple linear was used a lot could suggest that in these texts rheme was further elaborated, and new information in rheme was expanded. So, the texts could affect readers more powerfully (Wang, 2007).

There was a deviation of both themes and thematic progression in Turkish learners of English writing from native-speaker writings. However, the high rate of linear progression pattern in non-native speaker data could be attributed to the fact that most of the themes were derived from the same rhemes in preceding clauses, and the themes were simply exact repetition of the preceding rhemes. On the other hand, themes coming from rhemes in native speaker data had diversity in themes. Consequently, this situation led to a more homogeneous reading in native students' essays than English as a foreign language learners' essays.

As McCabe (1999) explains using simple linear progression allows a writer to make sure that readers could follow points of departures in texts by interacting with theme. Thus, by expanding on information introduced earlier in the text a conceptual framework is set. Linear and constant progressions are existent in all kinds of writing in high numbers and they are regarded as fundamental structures (Nwogu and Bloor, 1991; cited in Wei, 2016).

However, the two groups of students in this study were not statistically different in their use of derived theme in their argumentative essays. The mean rank of derived theme and split rheme progressions of native and non-native students'

essays was nearly the same. Both groups used this kind of progression minimally. Another previous research that was in line with this study's results was that Hawes and Thomas's (1997) research in which findings illustrated that the newspaper "the Times" that had a more scholarly voice and had more derived theme progression than the newspaper "the Sun". Also, advanced learners had more derived themes in their essays than lower intermediate learners. In addition, in line with the findings of this study, derived theme progression was used to nearly the same extent by both groups (Fontaine & Kodratoff, 2003). The fact that there were very few split progressions was attributed in Wei (2016) that using split progression in writing required more abstract thinking than other progression types. Additionally, Jalilifar (2010) argued that split rheme progression was deemed to make a text more coherent and logical. All in all, the use of constant, linear, derived and split thematic progression patterns had more variety in native students' essays. Furthermore, constant theme progression was prevalent in non-native students' essays.

Moreover, there was also a deviation from native students in the use of marked and unmarked themes in non-native students' essays. In general, the findings showed that undergraduate Turkish learners of English were found to be significantly different from native students in the use of unmarked theme. Undergraduate Turkish learners of English used unmarked themes significantly more than undergraduate native speakers of English in their argumentative essays. Nevertheless, there were 915 themes by native and 1208 themes by non-native students. The difference in the numbers of clauses between native and non-native students could be because non-native writers' sentences were composed of more independent clauses. In contrast to the findings of this study, Jalilifar's (2010) study showed that there was no significant difference in terms of markedness between native and non-native student's writings. Similar to Jalilifar's study, in other studies too there was no difference in the use of marked and unmarked theme between native and non-native students (Green et al., 2000; Liu & Tucker, 2015; Yang et al., 2007).

On the other hand, native and non-native students were not statistically different in their use of marked theme in their argumentative essays. However, non-native students' essays had a higher mean rank of marked theme than native students' essays. This finding was in consistent with previous literature on cohesion

in the EFL Chinese context (Green et al., 2000; Yang et al., 2007). Therefore, it could be argued that B2 level Turkish EFL learners might be better at forming sentences than the group of native speakers as to markedness. However, it is also possible that a study with lower proficiency level EFL learners could have different results.

5.5. Conclusion

This study yielded some results, some of which were in line with previous studies' results and which were in contrast with them. Some findings were also unique to this study. This study illustrated which lexical, sentence, and discourse level cohesion devices were used often and which were used rarely; therefore, attention could be directed to points, which need further emphasis in the teaching of writing.

The results of this study demonstrated that repetition and reference use was frequent among native and non-native students' essays. Anaphoric reference and lexical repetition were used most frequently to maintain cohesion; however, substitution and ellipsis were used rarely to maintain cohesion.

The less proficient Turkish EFL learners used a limited range of vocabulary. Therefore, they repetitiously used the same words. On the other hand, native students used more sophisticated vocabulary that showed a higher variety and complexity than non-native students' essays. As some researchers argue, when there are more lexical ties in a text, it does not necessarily mean that lexical ties are used well because the use of lexical repetition may be redundant (Allord & Ulatowska, 1991; McCulley, 1989 as cited in Guthrie, 2008). In line with this idea, not only the frequencies and statistical numerical results but also a detailed analysis of the use of lexical cohesive devices was carried out in this study. Therefore, a richer variety and complexity in native students' writings compared to non-native students' essays could be because of the lower language proficiency of Turkish EFL learners and a lack of exposure to target language forms in a foreign language learning context.

The results of this study indicated that native students' essays had also a richer variety in the use of thematic progression patterns. In this respect Jalilifar (2010) asserts that EFL and ESL learners feel more comfortable with the knowledge of grammar, and they consider grammar and sentence level structures to be the most important components of essay writing. However, they neglect the value of paying attention to discourse; rather, they overvalue sentence level grammar. However, to ensure a cohesive essay, which follows a logical sequence; writers first of all need to make use of linear progression model to a greater degree. Especially in longer essays writers had better write in a derived progression pattern fashion so that the topic stays the same and the topic could be further developed. As it is argued by Liu and Tucker (2015), constant pattern is used to give opinions on the same topic from different perspectives, and the linear progression is useful in revealing more information about the topic being discussed. Thus, the combination of two patterns is considered to be an influential way in delivering information.

In order for students to use thematic patterns efficiently, they may be given instruction on the ways of distributing information in a text. As Jalilifar (2010) also argues, when students are taught how to arrange old and new information, they attain the skills of organizing meanings in their writings. This way, learners could make use of strategies as a result of explicit instruction, and they could use this knowledge to produce a cohesive writing. Students' essays could be improved in terms of cohesion when attention is given to theme and rheme patterns. Students could attend first to paragraph, the topic, and subtopics of each paragraph, and the theme of a sentence.

There was a significant difference between native and non-native students' essays in terms of eleven dimensions in this study. This difference could be attributed to the fact that there was an inadequacy of connectivity and cohesion in non-native students' essays and insufficient knowledge about thematic structure. This could be because of a non-existence of instruction of thematic structure, as teachers of languages may not focus on this issue in writing courses (Jalilifar et al., 2017).

A number of studies examining how non-native students used theme and rheme and thematic progressions differently from native students were carried out (Belmonte & Hidalgo, 1998; Green et al., 2000; Hawes & Thomas, 1997; Jalilifar, 2010; Johnson, 1992; Mirzapour & Ahmadi, 2011; Yang et al., 2007). However, to the author's knowledge there have been none that analyzed lexical cohesion, grammatical cohesion, and thematic progression in a unified method in Turkish EFL context. Few studies have examined cohesion and thematic progression of Turkish EFL learners' essays; therefore, this study also aims to contribute to teaching of English language writing skills in Turkey.

5.6. Recommendations

According to results of this study, repetition was the mostly used cohesive device both in native and non-native essays. Moreover, native students used collocations, antonyms, and superordinates more frequently than non-native students. According to Guthrie (2008) students can overuse lexical repetition, as they have not gained more advanced level ways to form lexically cohesive texts like using synonym or superordinates yet. Since non-native students used repetition significantly higher than native students and they used repetitions heavily instead of utilizing a variety of lexical cohesion devices, it is recommended that in language teaching and learning the use of collocations, synonyms, antonyms, and hyponyms should be taught in teaching writing as a skill. Dastjerdi and Samian (2011) also assert that attaining lexical knowledge is a crucial skill in learning four skills in foreign language learning. For this reason, vocabulary items should be integrated in writing courses in meaningful contexts rather than in isolated vocabulary list forms. Thus, students could produce essays that are lexically cohesive. It is also recommended by Meisuo (2000) that students could make use of English to English dictionaries to learn vocabulary in context; thus, they could acquire paraphrasing words by synonyms, antonyms, hyponyms etc. instead of direct translation of words. In order to teach students description and appropriate use of cohesive items by incorporating Halliday and Hasan's (1976) cohesive devices taxonomy, focused activities are also a good way. Also, students' assignments could also be analyzed for incorrect use of cohesive devices.

This study showed that native students used exophoric reference especially the definite article ‘the’ was used extensively by the native students, whereas Turkish EFL students did not utilize them as much. As the definite article does not exist in Turkish language, students chose not to use it maybe to avoid any mistakes or redundancy. Therefore, as non-native students have little exposure to daily conversation in English and good sentence structures in a foreign language setting, they should be given explicit instruction on cohesion and cohesive devices (Olateju, 2006). As it is asserted by Meisuo (2000), in the explicit teaching of cohesion theory, reading and writing could also be integrated into teaching writing skills in a foreign or a second language. For this purpose, reading passages could be analyzed by examining development of ideas, and influential use of cohesive items in reading classes, and guided writing tasks such as making a summary of ideas from reading passage could be implemented in writing courses. In addition, reading texts representing characteristics of language and discourse arrangement can be included in writing classes so that students could be taught features of an organized and a cohesive text.

In addition, according to the results of this study, whereas undergraduate native students employed linear progressions more, Turkish learners of English were inclined to resorting to constant theme progression. It was further found in this study that non-native students made use of linear theme progression with a high frequency in their essays as well; nonetheless, the themes that formed a linear progression with preceding clauses were only repetition of the same element introduced earlier in the rheme. For this reason, as a treatment to this problematic issue, as Jalilifar et al. (2017) suggested that students should be introduced to theme and rheme theory and importance of thematic organization in a text in writing classes. After they are introduced to the topic, they could be shown ways of using these patterns and organizing information in their writings. Afterwards, students could work on their text and the instructor can give feedback on this topic so that students could build up more cohesive texts. The students could emphasize themes and thematic patterns in their texts and build upon their ideas introduced earlier. Besides, teachers of English should not only focus on word and sentence level structures, but rather they need to cover whole texts so that language learners could attend to discourse level structures.

Also, reading activities could be integrated in writing courses as it enhances learners' recognition of cohesion and qualities of a cohesive text (Rahman, 2013).

Deviation from native students' essays was observed in a variety of dimensions in this study. All in all, there was a statistically significant difference between undergraduate native and non-native speakers in eleven dimensions out of twenty-two dimensions. Taking the results of this study as to the differences found out between native and non-native writers in this research into account will have implications for such instruction on cohesion.

Further studies are needed to discover whether students who take direct instruction on cohesion would outperform students who do not take any instruction in this area. Also, students need to be taught how to distribute given and new information so that they could control their messages while writing texts (Wang, 2007). Besides, studies of cohesion on writings by young learners could also be conducted with an aim to build a good basis for teaching writing skills from the primary level to the subsequent grades in language teaching classes. Furthermore, by taking the results of this descriptive study into account, English language teachers can also reflect on their own teaching and come up with brand new techniques and methods for teaching of writing skills.

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APPENDICES

Appendix 1

A Sample Analysis of a Non-Native Student's Essay

Should Countries Have Conservation Policies?

With a population of approximately 7 500 000 000 people on this planet (TH1) it is nearly impossible without Conservation Policies, **because environmental issues (TH2)** are harmful effects of human activity on the biophysical environment.

Humans (TH3) have no other chance as Conservation Policies **because they (TH4)** are destroying the World day by day. **Humans (TH5)** have to protect the World **because they (TH6)** have no other space to live. **The World (TH7)** gives everything that a human, also organism, needs; such as water, oxygen and nutrition.

Environment destruction caused by humans (TH8) is a global problem, **and this (TH9)** is a problem that **(TH10)** is on going every day. **One of the main reasons (TH11)** is political discussion. **From the existence of people (TH12)** they start to wage war **and it (TH13)** is still continuing. **In the process of war (TH14)** millions of people die **and very big areas (TH15)** disappearing, **so it (TH16)** causes a lot of pollution. **For instance, chemical agents that (TH17)** were used destroyed the natural ecosystems. **During the 1991 Gulf War (TH18)**, oil terminals were dumped **and several tankers (TH19)** poured into the Persian Gulf. **Also, since the beginning of the Industrial Revolution (TH20)**, human influences on the environmental problems have increased. **For example, fossil fuels (TH21)** replaced natural energy sources such as wind and water. **Furthermore, with the beginning of the Industrial Revolution (TH22)**; urbanization, air pollution and water pollution started to increase.

All this issues (TH23) causes Global Warming. **According to researchers, if the temperature increases by +2 degrees (TH24)**, in several areas sand storms will be seen, **and agriculture (TH25)** will be impossible. **Also the sea levels**

(TH26) will increase **and a lot of species (TH27)** will die out. **If the temperature becomes +5 degrees (TH28)**, the sea level will be over 70 meters **and all the food stocks over the World (TH29)** will disappear **and if the temperature will become +6 degrees (TH30)**, migration will come back, **people (TH31)** will migrate to find an area to live.

To sum up, Global Warming (TH32) is not the problem of only one country, **it (TH33)** is a universal problem. **Countries (TH34)** still be more active about this problem, **they (TH35)** should provide **that our World (TH36)** is disappearing **and they (TH37)** should know **that humans (TH38)** are the main reason. **Governments (TH39)** should change **and (TH40)** improve their policies, **because this (TH41)** is not enough. **In every country recycling (TH42)** should be an obligation. **Nylon bags (TH43)** should not be free, **they (TH44)** should be sold with money. **Renewable energy (TH45)** should be an obligation too. **If we do not start to protect our World (TH46)**, the World and humans will die.

Table A. 1

Thematic Progression Patterns Used in This Essay

Clause 1	TH4	—————>	TH3
Clause 2	TH5	—————>	TH3
Clause 3	TH6	—————>	TH3
Clause 4	TH7	—————>	RH4
Clause 5	TH9	—————>	RH8
Clause 6	TH13	—————>	RH12
Clause 7	TH14	—————>	RH12
Clause 8	TH16	—————>	RH12
Clause 9	TH22	—————>	TH20
Clause 10	TH28	—————>	TH24
Clause 11	TH30	—————>	TH24
Clause 12	TH32	—————>	RH23
Clause 13	TH33	—————>	TH32
Clause 14	TH35	—————>	TH34
Clause 15	TH36	—————>	RH4
Clause 16	TH37	—————>	TH34
Clause 17	TH44	—————>	TH43
Clause 18	TH46	—————>	RH4

As it can be seen from the analysis above, NNS 1 had fourteen instances of constant theme progression (TH4=TH3, TH5=TH3, TH6=TH3, TH14=RH12, TH16=RH12, TH22=TH20, TH28=TH24, TH30=T24, TH33=TH32, TH35=TH34, TH36=RH4, TH37=TH34, TH44=TH43, TH46=RH4). On the other hand, there are four occasions of linear theme progression where the rheme of a clause becomes the theme of following clauses (TH7=RH4, TH9=RH8, TH13=RH12, TH32=RH23).

Table A. 2

Lexical Cohesion Used in This Essay

Repetition	people (6); conservation policies (3); environmental (3); humans (6); world (7); problem (5); war (3); gulf (2); water (2); industrial revolution (2); pollution (3); issue (2); increase (4); temperature (3); sea level (2); disappear (3); global warming (2); country (3); obligation (2); die (3).
Synonym	destroy- destruction
Antonym	free-sold with money; destroy-protect; come back-disappear
Superordinate	natural energy sources (superordinate)> wind and water (hyponyms)
Collocation	conservation policies, environmental issues, world, environment destruction, pollution, chemical agents, global warming, temperature, sand storms, recycling, nylon bags, renewable energy.
Texture	population, people, planet, human, organism, water, oxygen, nutrition, fossil fuels, Industrial Revolution, urbanization, air pollution, water pollution.

Table A. 3

Grammatical Cohesion Used in This Essay

Substitution	No example could be found in the data.
Ellipsis	Governments should change and (they) improve their policies. (nominal)
Conjunctions	also, and, furthermore, because, so, during, since, for example, for instance, to sum up
Personal Reference	it, they, their, we, our
Demonstrative Reference	this planet
Comparative Reference	other
Anaphoric Reference	they- people, they- nylon bags, the world, this problem, it-global warming, their-their, our world-we
Cataphoric Reference	No example could be found in the data.
Exophoric Reference	this, the biophysical environment, the world, the main reason, the process, the 1991 Gulf War, the Persian Gulf, the Industrial Revolution, the temperature, the sea levels, the food stocks, the problem, we

ÖZGEÇMİŞ

Kişisel Bilgiler

Adı Soyadı : Fatma Şeyma KOÇ

Doğum Yeri ve Tarihi : Elazığ, 19/05/1993

Eğitim Durumu

Lisans Öğrenimi: Orta Doğu Teknik Üniversitesi, Ankara, Eylül, 2011-Haziran, 2015

Yüksek Lisans Öğrenimi : Akdeniz Üniversitesi, Antalya, Nisan, 2016-Devam Ediyor

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Bilimsel Faaliyetleri : Koç F.Ş., Course S., "An Investigation of Negotiation for Meaning in Turkish EFL Context ", V. International Eurasian Educational Research Congress (EJER), ANTALYA, TÜRKİYE, 2-5 Mayıs 2018, pp.1-1

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Stajlar : ODTÜ Geliştirme Vakfı Okulları Ankara, Eylül, 2014- Haziran, 2015

Çalıştığı Kurumlar : MEB Dedeler İlkokulu, Konya, Eylül, 2015- Nisan, 2016

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İletişim

E-Posta Adresi : fatmaseymakoc@akdeniz.edu.tr

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ANALYSIS of COHERENCE and COHESION in EFL LEARNERS' ACADEMIC WRITING

*Dr. İğn. Dıyıcı İlk çeviri
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