

DECLARATION

I declare that this work, which I submit to the University of Bahrain, contains my own investigation. This research has not been previously accepted for any degree and is not being currently considered for any other degree at any other university.

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The thesis defense committee considered the thesis titled:

Logical Connectors in the Reading and Writing of Bahraini Secondary School EFL Learners

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ABSTRACT

This study aims at investigating the use of logical connectors in the reading and writing of Bahraini Secondary School EFL learners. In addition, it examines the effect of teaching logical connectors on students' reading comprehension and writing abilities. The study endeavored to find out the most common connectors used in students' writing. Also, if there are any incorrect uses of logical connectors. Moreover, it investigates the correlation between the use of connectors and the writing quality (writing proficiency) and students' understanding the function of the connectors. The research questions were answered through students' answers to a battery of three pre-tests and post-tests. The students were given a reading comprehension test based on understanding logical connectors, production test, and a writing test. The students' answers to these writing tasks were analyzed using qualitative and quantitative methods.

The participants of the study included Bahraini students. They were divided into control and experimental groups. They were female third year students at secondary school, who were at the intermediate level of proficiency in the English language. The experimental group was taught logical connectors through teaching writing, while the control group was not taught logical connectors. The results of the pre-tests revealed that students rarely use logical connectors, and they generally do not understand their functions. Thus, the writing quality was weak. On the other hand, the results in the post-tests indicated that implementing teaching helped the students improve their use of logical connectors. Furthermore, students used many different connectors and they were able to answer the reading comprehension and production test. As a result, their writing became stronger in terms of quality. Accordingly, the study provided some implications for teachers, students, and curriculum designers.

DEDICATION

This thesis is dedicated to my father Ebrahim, who gave me the best education he could, and raised me to be the person I am today, my husband Abdul Rahman for his unwavering support, and my two sons; Yousif and Isa, without whom this dream would not be possible.

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CHAPTER ONE

Introduction

CHAPTER ONE

Introduction

1.0. Introductory Note

This introductory chapter to the study covers some background information about logical connectors. It will also highlight the statement of the research problem, and the aim of this research. It is followed by the significance of the research, and the research questions. It will then present definitions of some key terms that are included in this research.

1.1. Introduction

English is an international language and a means of communication that people struggle to learn all around the world. Educators try to work hard to develop learners' proficiency in the language. However, teaching English as a foreign language is not an easy task for both the teachers and the learners. English has been used between native and non-native speakers and it is being used more than before. Therefore, more people will use it in the future as asserted by Kitao (1996). Connectors were not the real focus in the field of language teaching and learning. The main emphasis was on teaching the layout of writing and the format of it but instructors neglected the important role of teaching logical connectors in writing.

This study aims at drawing the attention of English language teachers and students to the importance of logical connectors in the secondary classroom communication and how it is influenced by instruction. It

seems that the most effective way in learning writing is perhaps to learn the basics of writing simple sentences and then joining them in order to make a paragraph. This is Cohesion, which was first introduced by Halliday and Hassan (1976), and then other scholars started studying cohesive devices. There are several types of cohesive devices and one of them is logical connectors. They are used to connect text semantically and logically. In the 1970s the vital role of logical connectors was recognized and much research emerged.

It has been noted that logical connectors have been found to be problematic for the English learners in general and Arab learners in particular (Bacha and Hanania, 1980). One of the central problems that secondary school students face is their inability to produce or join sentences correctly to form paragraphs because of numerous factors such as the nature of these devices (Biber, Conrad and Leech, 2002). This is because most of these pupils had failed to acquire the basics of writing during their early level of education.

Therefore, EFL learners find it difficult when to use and not use them in the appropriate place. Logical connectors are many and their usage depends on many factors. One of the reasons is that logical connectors do not have the same correspondences in both languages. This is because the two languages are two different languages. English belongs to Indo-European language family and Arabic belongs to the Semitic family of languages. This also leads us to the mother tongue interference that affects the choice of logical connectors. In addition, there are various functions of logical connectors that create problems for the EFL learners. In other words, they create various relations between sentences. Therefore, their usage differs depending on the communicative functions.

For example, the conjunctive *and* may signal an additive function and it may signal causality. Another example is *therefore* and *consequently*, which represent the cause and effect relationship. They come in different positions in the sentence and have different grammatical forms.

Learners can be equipped with various logical connectors in writing which can help develop the overall learning process. Added to that, using those strategies can help students be more active and be more independent in the learning process (Oxford, 1990).

Zimmerman (2009) states that it is important to teach students to depend on themselves in writing connectors. They should understand how to connect a word with another word with connectors. Furthermore, students should be aware of using each connector appropriately and that will not happen unless they understand the functions of each connector. This is achieved through teaching students the logical connectors that would allow them to get familiar with every connector in a text and use them effectively.

The current study provides further investigation into the analysis of EFL learners' logical connectors in reading and writing. This research will determine the appropriate use of logical connectors in reading and writing. It will also show the effect of teaching connectors on the students. The findings of this study could enable the students to be better readers and better writers by implementing teaching logical connectors in the learning process. In addition, it will be obvious for teachers to know the most common errors. Both quantitative and qualitative methods will be used in the form of tests in order to investigate the research question.

1.2. Statement of the Problem

Learners in secondary schools in Bahrain make various types of errors. These errors affect students' communication and hinder their effective presentation of ideas as well. In EFL classrooms, there are different levels of proficiency in English. There are strong and weak students at the same class. Weak students must rely on teachers' speech in order to communicate. They do not understand English that much, so the teacher should translate most of the time. Learners struggle at lower levels.

In the case of logical connectors, which are the key part of every EFL classroom and an important part in language communication, exemplifying the basic connectors usage for beginners may be a difficult task because there is an extra responsibility on the teacher in accelerating language teaching.

In Bahrain, the situation does not seem to be helpful, the students face problems in learning the language because they do not study English from the early stages of education. They do not interact in English in the English classroom, and most probably they are not exposed to the language at home, or in public places (Khan,2011).

In order to solve students' errors in writing and reading, there were many attempts to change the strategies and techniques of teaching to prevent the students from making those errors. Particularly, the errors that are related to the use of connectors. It seems that students do not know how to use connectors. It has been seen that the pupils find some connectors easier to use than others; thus, they repeat the same connectors in the entire text, or they do not put any connector when it is needed as it is of great

importance to join sentences logically with connectors. Logical connectors are important in building the text as they serve in specifying relationships between sentences as well as between paragraphs, which results in “hanging the text together” (Halliday and Hassan, 1976, p.8). As stated above, because students are very weak in joining sentences together, their writings are rather weak.

One of the reasons that the students do not seem to use connectors accurately is the fact that logical connectors are not taught in high schools as important tools of writing. Students in government schools, specially the secondary level are tested in reading, listening, and writing. They usually memorize models of writing for the exam that does not seem to help them in their writing skill.

Teachers believe that the students in government schools are weak because they should have been taught the basics in their early learning process. However, this does not seem to be the solution. Students should learn how to produce grammatically correct sentences in order to connect them and this can happen in any stage of their learning process. Thus, it will develop them as learners.

1.3. Research Questions

The study will attempt to find an answer to the following questions:

1. What are the most common connectors used in students' writing?
2. Are there incorrect uses of Logical Connectors?
3. Is there a correlation between the use of connectors and the writing quality?
4. Do the students understand the function of the connectors?

1.4. Scope and Limitations of the study

This study only covered sample of students' writing, reading comprehension, and production tests in one of the English courses in Bahraini government secondary schools, during the academic year (2015-2016). There was one free writing task; including two topics that they were familiar with. Also, how did the correct and incorrect use of logical connectors affect the overall quality of writing. Furthermore, there was a production and comprehension test to test their knowledge in the function of the logical connectors.

The current study is limited in its scope of investigating the use of logical connectors in students' reading and writing in 3rd secondary level. The subjects of the study were the pre-tests and post-tests, categorized as comprehension, production, and writing test.

1.5. Significance of the study

Celce-Murcia & Larsen-Freeman (1983), Mahmood (2014), Oshima & Hogue (1991), and Tomiyama (1980) agree that logical connectors are very important in speaking, writing, listening, and reading for EFL

learners. Ball (1986), Oshima & Hogue (1991) and Sadighi (2012) stated that if logical connectors are not used correctly, they will result in major errors and problems in the communication process. They also mentioned that if the logical connectors are overused they show the text “boring” and weak in context (1991, p.165). Therefore, in order to read and write any text, it is very important to use the logical connectors and understand them, because the misuse of any of them will result in misunderstanding the whole text (Conrad, 1999; Celce-Muria & Larsen-Freeman, 1999; Liu, 2008).

This research would give the teachers of high schools an opportunity to be more aware of the importance of teaching connectors as effective devices to unify the students’ writings. Furthermore, this would also help the educational specialists to persuade the specialists at the Curriculum Department in the Ministry of Education to consider new writing textbooks that help the students to acquire the writing skills by focusing on logical connectors and perhaps on other writing devices.

After considering this research, EFL educators and teachers in Bahrain may become well aware of the importance of logical connectors in learners’ reading and writing, and well aware of the effect of using logical connectors on classroom interaction. The study may help EFL teachers to know students’ weakness in using the connectors and therefore prepare the right methods and materials to teach them. Students may also be able to overcome their weakness and try avoiding the errors and work on their variety use of connectors.

This study is significant for teachers and curriculum designers as it sheds light on the most common connectors used in students’ writing and the

incorrect uses of logical connectors. Identifying the incorrect uses of logical connectors will result in finding if there is a correlation between the use of connectors and the writing quality and will develop understanding of the function of connectors. The choice of third year learners was done intentionally as students are considered seniors and should have the ability to use logical connectors better than the first and second secondary level students. In addition, they are keen to finish secondary school and join university.

In Bahrain, no study was found to be touching on the topic of this research, which is different from the previous ones because of some reasons: first, the majority of them deal with students in the advanced level of proficiency. However, this research attempted to deal with different level of proficiencies (low, middle, and high achievers). Second, the previous researches were done in an environment where there was no instruction in this short period of time; as this research was conducted in one week. Third, most of them deal with one group, but this research deals with two groups; control and experimental.

It is hoped that the study will provide a useful outline about how connectors might be connected logically in order to facilitate the learning process. The findings of this study are expected to help teachers to be aware of students' weakness' in using the connectors. In addition, the research will help the students by focusing on the connectors. It will also enable curriculum designers to prepare effective and special materials that illustrate briefly all the logical connectors and help students learn them easily. Finally, it is hoped that this study will provide important areas for further research in future.

This study seeks to answer the main research questions, namely, (1) What are the most common connectors used in students' writing? (2) Are there incorrect uses of Logical Connectors? (3) Is there a correlation between the use of connectors and the writing quality? (4) Do the students understand the function of the connectors?

1.6. Aim of the Study

The purpose of this study is to identify the use of logical connectors in students' reading and writing, which are employed by secondary government schools in Bahrain alongside the difficulties that might exist in the learning process. It is hoped that the findings of this study will be helpful for students, teachers and curriculum designers in Bahrain and other Arabic countries. Thus, it will develop an understanding of students' incorrect uses of logical connectors and the problems they face. Also, this study aims at assisting the students in avoiding the incorrect uses of logical connectors.

1.7. The Organization of the study

The thesis consists of five chapters. Chapter One is the introduction that includes the statement of the problem, the aims and significance of the study and the presentation of the research questions. Chapter Two is the theoretical framework and literature review of research in the field of use of logical connectors in students' reading and writing. The Third Chapter presents the data collection and research methodology. Chapter Four explains the analysis and discussions of the results. Finally, Chapter Five presents the general conclusion, the main findings and pedagogical implications, as well as the recommendations for future research.

1.8. Definition of Terms and Abbreviations

Logical connectors (LC): are words or phrases that connect the same idea in a clause or a sentence in another. (Hogue & Oshima,1997).

Bahraini EFL learners: They are students whose mother tongue is Arabic and studying English as a foreign language in Bahrain.

Overuse: It refers to the use of specific linguistics items by EFL students more than native speakers of English (Crewe, 1990).

Underuse: It refers to the use of specific linguistics items by EFL students fewer than native speakers of English (Crewe, 1990).

Native speaker (NS): This term refers to “a person who has spoken the language in question from earliest childhood” (Oxford Dictionaries, 2015).

Non-native speaker (NNS): This term refers to “a person who has not spoken the language in question from earliest childhood” (Oxford Dictionaries, 2015).

EFL (English as a Foreign Language): This term refers to the study of English language by non-native speakers of English who are living in different country where the official language is not English (Chomsky, 2006).

EG (Experimental Group): This term refers to the group in the experiment of this study that was taught logical connectors.

CG (Control Group): This term refers to the group in the experiment of this study that was not taught logical connectors.

CHAPTER TWO

Theoretical Framework and Literature Review

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Theoretical Framework and Literature Review

2.0. Introductory Note

This chapter lays the foundation of this research. It deals with some of the important issues that are relevant to this study. It includes two main parts. The first one is the review of theoretical literature, which is based on works of major scholars in the field. The second part reviews the previous studies in this field.

2.1. Error Analysis

Corder states that learners' errors provide evidence of the system of the language that he is using. He also points out that learners' errors are important because they provide the researcher evidence of how "language is acquired" (1967, p.167).

Error analysis aims at observing, analyzing and classifying them in order to reveal the strategies learners use while acquiring a second language (Brown, 2000, p.219). It also has many other good points on both the teachers and the learners at the same time. It helps the teacher to know the students development. Also, it helps the learner to learn from his errors so he will not repeat them. Nyikos and Oxford (1993) focus on the learner himself as they state that "learning begins with the learner" (p.11).

2.2. Learners and Logical Connectors

Logical connectors play an important part to make the text cohesive. Therefore, it is crucial for learners of English to use the logical connectors accurately. There are different logical connectors depending on the length, form, and function. Sinclair divides them into two types: Lexical such as (although) and phrasal such as (as a result). Logical connectors are divided into twelve functional groups by Quirk and Greenbaum (1973). Biber et al (1999) divides them into six groups. He gives some facts about the usage of logical connectors. Sinclair (2005) subdivides them into seven groups, and Carter & McCarthy (2006) subdivides them into nine groups.

2.3. Coherence in Written Discourse

Many researchers defined coherence differently. Starting with Halliday and Hassan; they say that cohesion is a semantic feature, it refers to the meaning that exists within the text, and in which each element depends on the other. They point out that cohesion displays in the ties whether it is lexical or grammatical that exists in the text itself. Therefore, that relation leads to cohesion (1976, p.3). Other researchers interpreted the concept coherence differently. For example: Diez (2003) and Martin (1992) believe that Halliday and Hassan fail to make their theory more explicit. They give the example of “readers contribution towards the comprehension of the message and contextual variables” that should be more researched (Diez, 2003, p.91). Other researchers such as Bander (1983) and Bain (1980) attempt to fill the gap of the definition. They work on the unity on the sentence and paragraph level in terms of linguistic sequences. Bain defined coherence as a connection between

sentences that creates structured paragraphs, which are linked together by transitions devices (Bain, 1980). Bander says that a paragraph is a coherent when “its ideas are clearly related to each other in an orderly sequence’ (Bander, 1983, p.6).

However, researchers like Lee (2002) criticized Bander and Bain’s definitions for two reasons. First; they say that it is a very narrow definition based on sentence and paragraph level instead of discourse level. Second, they remain text focused and do not consider reader’s mental process, which will not show coherence.

To conclude what other researcher stated about coherence. Some researchers for example, (Grabe and Kaplan, 1996) define coherence as a relationship between elements within the text and within the readers’ mental progression “Coherence refers to the underlying relations that hold between propositions and how these assertions contribute to the overall discourse theme” (1996, pp 70-71). Others like (Beugrande and Dressler, 1998; Hoey, 1991) do not agree on the relationship between the elements of the text and the reader.

As Jackson suggests that “connectors do not only help to establish cohesive relationships between parts of the text, but they also guide readers to achieve the preferred coherent interpretation intended by the writer” (1990, p.254).

Other researchers including McCarthy (1991) also gives a definition of coherence and cohesion. He defined cohesion as a tool that shows or leads to coherence and coherence as something created by the reader

while reading a text. Other researchers such as Widdowson (1986) and Renkema (1993) point out that coherence is not an element from the text, but it is the result of cognitive process between the text users.

Hoey follows the same research by asserting that coherence is “a quality assigned to the text by a reader or listener. The same text may be found coherent by one reader and incoherent by another”, and cohesion is “a property of text whereby certain grammatical or lexical features of the sentences of text connect them to other sentences in the text” (1991, pp.265-266).

Therefore, there are two basic theoretical frameworks that we may rely on:

1. The schema theory framework: the coherence of a text appears before cohesion, because cohesion is a linguistic consequence. In other words, we know cohesion when we read (Carell, 1983). It depends on the background knowledge of the reader/listener.

2. The theoretical models depend on the pragmatic view as Crystal defines pragmatics as “the study of language from the point view of users (1985, p.240).

Therefore, coherence depends on how the writer writes and how the reader receives the message. It focuses on the linguistic properties of texts (Grice, 1975).

The aim of our study is to develop learners’ use of linguistic properties by using logical connectors in EFL classrooms by organizing their writing coherently and cohesively.

2.4. Definitions of Logical Connectors

Many researchers labeled logical connectors differently but the meaning remains the same. Halliday and Hassan (1976) called them conjunctive adverbials. Biber, Johanson, Leech, Conrad and Finegan (1999) called it linking adverbials. Crewe (1990), Pander and Sanders (2006) referred to it as “connectives”. Bolton, Nelson and Hung (2003) use the term connectors. Not only those terms, but many others called it as adverbial connectors (Altenberg and Tapper 1998; discourse connectives (Liu 2004), discourse operators (Bomber, 1982), particles (Li, 1998), “conjuncts” (Quirk et al., 1985) or pragmatic markers (He and Ran, 2009).

Celce-Murcia and Larsen-Freeman define logical connectors as closed-class words "words or phrases whose function is to show some logical relationship between two or more basic sentences" (1983, p.323). They also define it as “lexical expressions that may add little or no propositional content by themselves but that serve to specify the relationships among sentences in oral or written discourse, thereby leading the listener or reader to the feeling that sentences hang together or make sense” (p.519).

Different authors define logical connectors differently. There are some who agree that connectors convey procedural meaning such as (Blackmore, 1987; Wilson and Sperber, 1993) and some agree that connectors convey conceptual meaning such as (Halliday and Hassan, 1976), whereas some authors agree that connectors convey both;

procedural and conceptual meaning such as (Schriffin, 1987; Fraser 2006).

Despite the differences between the procedural and conceptual meaning, there are circumstances where some linguistic elements do not affect the meaning of a text and that does not mean that they are meaningless (Fraser, 2006).

Logical connectors “connect units of discourse of different sizes” (Biber et al., 1999, p.765). He argues that logical connectors “state the speaker’s or writer’s perception of the relationship between two units of discourse” (p.875). He also uses the term to show enumeration/addition, summation, apposition, result/inference, contrast/concession, and transition (Biber et al., 1999, p. 765). Halliday and Hassan (1976) defined logical connectors as the means that “express certain meanings which presuppose the presence of other components in the discourse” (p.276). Also, Greenbaum, Leech, Quirk, and Svartvik (1985) argue that the adverbials, which are not included within the sentence are conjuncts. And they function as adverb and prepositional phrases connectors. They are called connectors, because they clarify the meaning between sentences that occur with each other, and they connect the sentences in order to create coherence in a text.

A variety of definitions have been used to refer to linking adverbials. Hogue and Oshima 1997 defined “Adverbial Connectors” as words or phrases that connect the same idea in a clause or a sentence in another. There are other linguists who defined it as; sentence connectors that join two independent sentences or clauses and make sense (Biber et al, 1998).

Quirk et al. asserted that logical connectors conjoin linguistic units, whether it is one word like “nevertheless” or more than a word like “on the one hand” (1985, pp.631-632). This is what Sinclair (2005) stated that the connective adverbials are two types; lexical (which Quirk said one word unit) and phrasal connective adverbials (What Quirk said more than one unit).

Logical connectors are known to us now as any form of connection between sentences or paragraphs to show clarity of a text. It even works as a paragraph level by “conjoining linguistic units, such as sentences, paragraphs and even large parts of a text” (Quirk et al, 1985, p.7).

Added to that, Biber et al (2002) argue that logical connectors’ common position is the initial position. They can also be positioned in the middle when they follow the auxiliary verb or the subject. On the other hand, Bloor and Bloor (1995) argue that logical connectors always come at the initial position to link the units.

Halliday and Hassan classify the logical connectors by 4 classes in order to know them by: adverb phrase: (so, however, therefore), prepositional phrase (for instance, in contrast), finite clause (that is, what is more), non-finite clause (to add, to sum up).

2.5. Cohesion and logical connectors

Logical connectors seem to play a very essential role in learning English language. They are words or phrases that link clauses or sentences together to get text cohesion (e.g. however, moreover, therefore, etc.). When we have a discussion about logical connectors, it is very important

that we know about coherence; which is related with writing more than speaking. Hyland stated that through writing, we could see communication between the reader and the writer. Therefore, the writer should “project himself into his work to signal his communicative intentions to the reader” (Hyland, 1998, p.437). Thus, if any writer would like to establish a good way of communication, he should consider coherence his first priority; which is using the suitable connectors between sentences or paragraphs. Halliday and Hasan (1976) were the first who wrote about coherence. Then the study of cohesive devices began.

There are many types of cohesive devices and one of them is “Logical Connectors”. As its name suggests, their use is not associated with the language but also with logic (Rahimi & Qannadzadeh, 2010).

Halliday and Hassan defined ‘cohesion’ as “a relation between sentences in a text, not a relation within the sentence” (pp.227-232). For them cohesion is a significant feature of a coherent text (Halliday, 1976). They defined Cohesive tie as “a semantic relation between an element in a text and some other elements that is crucial to the interpretation of it” (1976, p.8). They categorized cohesive devices into five classes: reference, substitution, ellipsis, conjunction, and lexical reiteration and collocation. They logically connect good piece of writing.

Halliday and Hassan (1976) argue that logical connectors have two ways of functioning: ‘structurally’ and ‘cohesively’. The two functions are different as follows:

1. It functions structurally when two linguistic units are connected by a coordinator or subordinator within the sentence.

2. It functions cohesively when it is connected by connective expression not by a coordinator or subordinator, and usually it's between two different sentences.

2.6. Classification of Logical connectors

Halliday and Hassan suggest five types of logical connectors: additive (e.g. moreover, in addition, furthermore, besides); adversative (e.g. nevertheless, although, yet, however); causal (e.g. therefore, as a result, hence, for this purpose); sequential (e.g. next, then, first, at last) and continuative (e.g. now, of course, after all).

Biber et al (1999) classifies them into six categories which are:

1. Enumeration and addition (e.g. first, also, moreover)
2. Summation (e.g. in sum, to conclude, all in all)
3. Apposition (e.g. in other words, that is, for example)
4. Result/inference (e.g. therefore, so, thus)
5. Contrast/ concession (e.g. in contrast, after all, however)
6. Transition (e.g. by the way, meanwhile).

Quirk et al (1985) classifies them into seven categories:

1. Listing (e.g. first, second, furthermore)
2. Summative (e.g. then, to sum up, overall)
3. Appositive (e.g. namely, in other words, thus)
4. Resultative (e.g. thus, as a result, hence)
5. Inferential (e.g. else, in that case, otherwise)
6. Contrastive (e.g. on the other hand, again, alternatively)
7. Transitional (e.g. by the way, eventually, meanwhile)

Halliday (2004) classifies them into three main categories and each of them may consist of more than one sub category:

1. Elaboration (e.g. anyway, thus, in other words).
2. Extension (e.g. however, also, instead).
3. Enhancement (e.g. in the end, however, next)

2.7. Halliday and Hassan types of categorization

Halliday and Hassan (1976) consider some coordinating conjunctions such as; (and, but, so, and then) as conjunctive cohesion. According to this categorization, logical connectors work in transferring different meanings. According to Halliday, there are four types of connectors. First, additives which mean, “there is something more to be said” (p.245). They are used to signal addition, introduction, and similarity. Additive relation includes Alternative, Comparative, and Appositive relation. Second, causatives that are used to signal cause/ effect and reason/result relationships. It includes three relations: result, reason, and purpose. It means “for this reason”, “for this purpose”, and as a result of this”. Third, adversatives; signal relationships as conflict, contradiction, concession, etc. It is always cohesive and can occur both initially or non-initially in the sentence. Finally, the fourth connector is sequential that signals a chronological or logical sequence. It is a relation between two successive sentences, whether in terms of time sequence, or in terms of points of enumeration (Celci-Murcia & Freeman, 1983, p. 324).

Halliday and Hassan also add six more connectors under the category Continuatives. Which are: “now”, “of course”, “well”, “anyway”, surely,

and after all. They “although do not express any particular one of the conjunctive relations, are nevertheless used with a cohesive force in the text” (p.267).

Table 1. Chart of connectors (Adapted from Oshima and Hogue, 1991)

Clause connectors				
Meaning / function	Sentence connectors	Coordinators	Subordinators	Others
To introduce an additional idea	in addition / besides / furthermore / moreover			
To introduce contrast	on the other hand / however / in contrast	but	Although / Even though / whereas / while	in spite of / despite
To introduce an example	for example			
To introduce a conclusion or summary	in conclusion / to sum up			
To clarify chronological order	first(ly) / second(ly) first of all after that / then eventually / in the end			
To introduce cause or reason			because / since / as	
To introduce result	as a result / therefore / consequently	So		
To introduce concession	however	but	Although	Despite / in spite of
To explain purpose			so that / in order (not) to / so as (not) to	
To introduce condition			Even if	

2.8. The Importance of Logical Connectors

Adas (2012), Al-Jarf (2001), Castro (2004) and Leo (2012) investigated the importance of logical connectors in the process and the content of learning. They said it is very important in any language learning whether it is native or non-native because it transfers our ideas in order to make sense and therefore, it will facilitate the unity of the text. They should be clear, obvious and transfers the idea fully as it plays an important role in spoken and written language (Odlin, 2001), (Ball, 1986) and (Sadighi,2012).

Many researchers found that sometimes the connectors are used differently. However, other researchers agree that when the connectors are correctly used, they will definitely help us to better communicate (Flowerdew&Tauroza, 1995; Mauranen, 1993; Campoy et al., 2010; Tyler, 1994). Also, researchers including Deng, 2006; Goldman & Murray, 1992; Johnson, 1992; Lorenz, 1998 said that if you are able to use connectors, then that indicates the proficiency in language for native and non-native learners.

Nevertheless, many EFL learners face problems in using connectors (Bolton et al., 2002; Crewe, 1990; Deng, 2006; Heino 2010; Marco &Jose, 2010; Lee, 2013; Zhang, 2014). It is problematic because many writers avoid using the connectors since there are other alternatives, such as repetition, substitutions, and reference; as they are not just words; they have to be familiar with their actual meaning and usage as well. Furthermore, connectors are not easily translated between languages

because there is no word-to-word translation for all the connectors, which causes a problem for EFL learners.

2.9. The Terms ‘Overuse’ and ‘Underuse’ in the Use of Logical connectors

It seems that the terms ‘overuse’ and ‘underuse’ are widely used in the studies of EFL learners’ difficulties in the use of logical connectors. These terms are used when “a linguistic form is found significantly more or less in the learner’s corpus than in the reference corpus” (Gilquin, Granger & Paquot, 2007, p. 322).

It is clear that logical connectors in EFL writings are overused not underused. Crew (1990) states that the overuse is caused by two factors:

1. Students try to impose logicity in their writing, where there is no need for that.
2. It might be a way of overcoming the usage of other links because of its difficulty.

Crewe also relates overuse with misuse of logical connectors

“Over use at best clutters up the text unnecessarily and at worst causes the thread of argument to zigzag about, as each connective points it in a different direction. Non-use is always preferable to misuse because all readers, native speaker or non-native-speaker, can mentally construe logical links in the argument if they are not explicit, whereas misuse always causes comprehensive problems and be so impenetrable as to defy normal decoding” (Crewe, 1990, p.324).

2.10. Reading Comprehension Studies

Logical connectors play a crucial role in reading as well. According to Celce-Murcia and Larsen-Freeman, logical connectors are important in speaking, writing, listening and reading for EFL learners (1983, p.323). It is very vital in the role of understanding the functions of logical connectors in reading comprehension. Incorrect use of logical connectors leads in major problems and communication failure (Tomiyama, 1980).

Logical connectors are very important between the reader and writer's interaction, as it is stated by Molina "it is important for the reader to understand the way in which texts are structured and to recognize the functions that are being performed. Therefore, "any device that helps the interaction between text and reader, such as discourse markers, are really useful because of its potential as an aid to comprehension" (Molina, 1995, p.251).

There were many studies that have showed the importance of using connectors in a text because it helps the clarity of the text and it will help in understanding the text easily (Geva and Ryan, 1985). On the other hands, there are some studies that do not show any importance of the connectors in getting higher reading comprehension (Sloan, 1984).

2.11. Literature Review

The literature review covers the empirical studies of use of logical connectors based on different views, and the pedagogical studies of logical connectors. Also, it focuses on the most important research contributions in EFL classrooms.

Learning the connectors is not easy for EFL learners; it might be a problem for them, not only the foreign learners but even the native speakers as well. The studies have shown that they under-, over- and misuse connectors in their writing (Bolton et al.2002, Leech 2002, Wei-yu Chen2006, Field and Yip1992, Crewe 1990).

There are some previous researches done regarding those issues. For example, a study done by Milton and Tsang (1993) on Hong Kong students, where they identified overuse of connectors. Field and Yip (1992) also conducted a study on the use of connectors in the writing of high school learners in Hong Kong. They took three groups from Hong Kong learners and compared them with a group of 29 learners from Sydney. The results were that Hong Kong students overused some connectors comparing to students from Sydney.

Blagoeva (2001) had done a study on all university learners in their second year of studying American Studies. She analyzed their writing of different topics and articles, spoken extracts from radio programs, transcripts of interviews and announcements by Halliday and Hassan's classifications of connectors. The results were that the learners and native speakers use more connectors in speaking rather than in writing. In addition, she found that learners overused many connectors comparing to the native speakers. Another study was conducted by Granger and Tyson (1996) on French EFL students; the results showed that there was no overuse of connectors in general, but if it was checked individually there was overuse of connectors in their essays.

Shea (2009) has done a study on non-native speakers, who were in their second to fourth semesters; studying Intensive English Program in

Midwestern University. They were given essay questions on different topics. The essays were marked by two assessors. One of them was a Faculty member in MA TESOL graduate program, and the second was a PhD candidate. The results indicated that there were few significant relationships between the number of connectors and the organization sub score. In addition, the use of logical connectors does not follow the general trend of language development.

There are studies on the use of logical connectors in other countries, but the research has not been done in Bahraini context on this topic. In addition, studies that have been carried out by Altenberg and Tapper 1998, Bolton et al 2002, Deng 2006, Heino 2010, Lee 2013; Marco & Jose 2010, and Zhang 2014 all gave different results. In some of the studies like Altenberg and Tapper's, EFL were under-using the connectors compared to native speakers. The study was done on Swedish EFL students. They basically compared their essays with the English students' essays. They found that Swedish students use fewer connectors than the English students, which means they underuse the connectors in written English. Narita, Sato and Sugiura (2004) found different results from Altenberg and Tapper. Their study was done on Japanese EFL learners' use of connectors. They found that the Japanese students overuse the connectors, which contradicts with the Swedish students. Even Fei, Wei-yu Chen (2006) found the same overuse of connectors in Chinese and Taiwanese learners' writing. In addition, Kirchhoff (2010) has done a study on 44 Japanese ESL learners in their second year of college in Japan. Forty-two were Japanese and two were multi-lingual. The results were misuse of logical connectors in their writings. Chung (2000) examined the use of logical connectors in reading comprehension of secondary school learners in Hong Kong. There were four different

versions of the same test for different level students. Gorjian, Pazhack, and Naghizadeh (2012) conducted a study to explore the use of logical connectors between Iranian and native researchers of English. They have taken 180 articles from different journals written by different authors as native and non-native writers. The connectors were extracted and then calculated for their frequencies. The results were that non-native researchers underuse logical connectors in their articles on word based analysis but on sentence analysis no significant results were found.

Xu and Liu (2012) examined a research on the differences in the use of logical connectors between Chinese EFL learners and native speakers. The findings of the results showed that Chinese EFL learners overuse, underuse, and misuse Logical connectors compared with native speakers.

In Bolton et al's (2002) study, the EFL overused the connectors. He studied the use of connectors in the students' writings. The students were in university. They were from Hong Kong and Great Britain. As far as Heino's (2010) and Cheryl's (2006) study, the EFL were under-using the connectors and depending on a small number of connectors. EFL in Marco & Jose 2010 study, were misusing the connectors and found to use very informal connectors. Zhang (2014) found his Chinese students overusing, under-using and misusing the connectors. Mahmood and Ali (2011) conducted a study where they compared 50 circumstance connectors and their frequencies in Pakistani English and how they are different from native English speakers. The results were that the use of connectors in Pakistani English is less than the native varieties of English.

In like manner, there are Arab learners who have done studies on logical connectors such as Bacha and Hanania (1980); they investigated the use

of transitional words. They used the text-analysis method and applied it in the American University of Beirut in Lebanon. The result was that students' lack of knowledge in using logical connectors caused some problems.

Khalil (1989) has done a research on the use of cohesive devices and he found that Arab students overuse the same lexical item, whereas they underuse other lexical and grammatical devices. He also found that students' writings were incoherent because they did not have much information about the topic. Khuwaileh and Shoumali (2000) have done a study on writing skills of Jordanian students in Arabic and English. They analyzed the texts and found that the students, who are weak in their writing in Arabic, were weak in their English writing as well because of the lack of logical connectors in their writings. Hinkel (2001) has done a study to find the frequency of the cohesive devices of native and non-native speakers and found that all non-native speakers use conjunctive adverbials more than native speakers. Fakhra (2009) had conducted a study where she compared between Syrian and British students. The study showed that the Syrian students use more logical connectors than the British students. The British students use different types of connectors comparing to the Syrian students. Also, Abu Sharkh (2012) has done a study on three groups of Palestinian students. He analyzed their essays and found out that there are overuse and underuse of certain connectors. In like manner, Ahmed (2012) who conducted a study on Egyptian students in university found that students have many problems in logical connectors. Reid (1992) analysed 768 essays written by Arabic, Spanish, Chinese, and English. He examined the essays to check if there are differences in the use of connectors between the four languages. The results showed that non-native speakers use more connectors than native

speakers. Arabic learners used connectors more than Spanish, Chinese, and English. Chinese used fewer connectors than Arabic and Spanish.

Mudhhi and Hussein conducted a study on Kuwaiti EFL learners and native speakers of English to investigate the frequency of occurrence of logical connectors in their writings. They found out that Kuwaiti EFL learners overused logical connectors especially additives and causals and under used some connectors such as 'however', 'though', and 'also', whereas Native speakers used adversatives regularly. Those studies showed clearly that Arab learners face problems using the logical connectors in their writing.

As it is mentioned above, the real function of logical connectors is to make some logical relation and that will benefit the reader to connect the sentences and paragraphs. However, its function might change if not used properly. If it is used appropriately, connectors will help a lot in making the content or text more clear (Altenberg & Tapper, 1998, p.80).

Altenberg & Tapper (1998) also found that the use of connectors is very much related to students' proficiency in the language (Altenberg and Tapper 1998, p.83). Jafarpur (1991) points out that the total number of cohesive ties of each essay is significant because it is a big indication of the writing quality. In addition, Linnarud (1979) claims that it seems there is a connection between high scores and the number of connectives in students' writing.

Regarding the use of frequency of ties and language proficiency, there were number of studies that were carried out after Halliday and Hassan

(1976) about the relation between connectors and language proficiency. Researchers (e.g., Geva, 1992; Goldman & Murray, 1992; Chung, 2000; Ozono, 2002; Ito, 2003) supported the view that there is a relation between the ties and language proficiency. For example, a study was conducted by Norment (1994), where he studied 30 essays from Chinese university. The results showed that there was a relation between frequency of ties and writing quality. Another similar study was done by Lahuerta (2002). She examined a group of 7 learners from Spanish learners of English. The results of the study showed that students who wrote better writing, used a variety words of connectors. Intaraprawat and Steffensen (1995) in their study examined the different types of metadiscourse in good and poor ESL essays by university learners. They examined 12 essays in which 6 of them were the best and 6 of them the worst. Their analysis showed that the best essays were stronger in the use of metadiscourse and more features used than the weak essays.

In like manner, Kiany and Khezhreshad (2001) took 120 Iranian learners studying from elementary, intermediate and advanced in Kish language institute. The results showed that the students from advanced level used more connectors than intermediate. And the intermediate used more connectors than the elementary students.

Rahimi (2010) carried out a study on 100 participants from University of Kashan, Iran. They were studying BA either in English Translation or English Literature. The results showed that higher-level students use more tokens of logical connectors in their writing and they tend to avoid repetition.

Patanasorn (2010) conducted a study on the use of logical connectors used by Thai EFL students. He compared their writings with American students across three levels of writing quality. The finding of the results was that Thai students used causative connectors (38%), then additive (37%) and adversative (13%), whereas American students preferred using causative (40%), then additive (32%). Therefore, Thai students used less connectors. Leedham and Cai (2013) conducted a study on Chinese students in UK universities. The findings from the study indicated that there is a significant difference of higher use of logical connectors by Chinese students on particular connectors such as ‘besides’ and ‘on the other hand’.

Anderson (2014) collected 4 corpora on which he discusses differences in the use of logical connectors between 1st year composition students and final year students. The first assignment was a narrative essay. The other three corpuses were argumentative essays. He found that the first year students overused the logical connectors and used more connectors than the proficient last year students. Another study was carried out by Lei (2012) conducted a study on the use of logical connectors in academic writing of Chinese doctoral students. The results were that they overused the connectors comparing to the professional writers. There were also misuse of connectors and they relied on limited numbers of connectors. Thus, there was a relationship between the use of connectors and language proficiency.

On the other hand, there are other studies that are done to see whether there is a relationship between using the connectors properly and the writing proficiency. The results were contradicting because there was no correlation (Granger & Tyson, 1996, p.17). Similarly Tangkiengsirisin

(2010) who conducted a study on Thai students, found that there are problems in using the connectors even with advanced level students. Mauranen also showed this point; that connectors sometimes do not improve the text's readability and make a different effect. He also said that the use of connectors might differ from one language to another and English language is the most explicate one (Mauranen, 1993, pp.162-168).

Others like Connor (1984) has done a study on ESL learners in which he compared their writing with the native speaker's writing. The students were from an advanced level in Georgetown University. They wrote six essays about different topics and then it was analyzed by Halliday and Hassan's (1976) framework. The results showed that it is not important to be coherent in your writing in order to make the text cohesive.

Both Marshall and Glock (1978) agree on the point that the learners who are high in their proficiency level (students who are fluent in English) may not benefit from connectors, whereas learners who are low in their proficient level may benefit from connectors. In the same line, the study of Johnson, P. (1992) analyzed the relation between the ties and language proficiency on Malay students. He took two groups; one of them Malay learners and the other is native speakers. 20 essays were taken from each group. Cohesion is checked and evaluated by their English teachers (both native and non-native) as good or weak essays in terms of quality. Then, the tests were analyzed by Halliday and Hassan's (1967) model. The results showed that there was no relation between the frequency of ties and quality of the writing. Another study done by Zhang (2000) on the use cohesive features on the Chinese EFL undergraduates. He took 107 essays from two universities in China and analyzed them using Halliday

and Hassan's (1967) framework. The results showed that there is no relation between use of ties and writing quality. However, the lexical devices were used frequently.

2.11.1. Summary

In conclusion, having reviewed most of the literature on the use of logical connector studies which provided different findings about its use; it has become obvious that different views seem to indicate that more investigation is needed. In addition, there are small numbers of studies which have been conducted in this field in the Arab world and there is no study that has investigated use of logical connectors in Bahrain. The present study is important because it aims at examining the use of logical connectors in students' writing and reading in secondary schools of Bahrain.

The studies mentioned above are different from this study because this study is done specifically on secondary level students. In addition, instructions do not take place in the above studies. Furthermore, there is no study of logical connectors done in Bahraini secondary schools. Cumming (2001) mentioned that there should be more research about the use of logical connectors. Rehnolds points out that younger school students are more in a need of instruction of logical connectors. Thus, our research deals with secondary students with the effect of instruction on logical connectors.

CHAPTER THREE

Methodology

CHAPTER THREE

Methodology

3.0. Introductory Note

This chapter presents and discusses in detail the methodology that was followed in this study. It describes and discusses the criteria for selecting the participants, the methods of teaching, and the practical procedure of the analysis. The chapter also states and discusses the validity and reliability of each test.

3.1. The Participants

The data was collected from 60 female students in their third year secondary government school in Bahrain. The sample of participants was randomly chosen from one school. This sample of participants was divided into two groups: experimental group (EG) (n= 30), and control group (CG) (n=30). Arabic is their native language as they are all Bahraini students. English is one of the school subjects.

The participants were randomly selected to be from third year secondary level students because they are considered senior students and are supposed to have a good English background to get ready for university. In addition, students at this stage are more likely to be studying hard in order to get high marks to be accepted at a university as English is used as the medium of instruction in many colleges and universities in Bahrain.

It was confirmed that both groups from the two classes have the same level of proficiency in English and that is showed by their results in the pre-tests that were given to both groups as will be shown in the presentation of the results.

3.2. The Data Collection Methods and Procedures

In order to answer the research questions and to achieve reliable results, a battery of three tests was used to collect the data of the study. The first part was writing in which students were given two topics to choose one from and write about. The second part was production test that consisted of two parts; the first part was multiple choice which required circling a suitable connector in each sentence. For example:

1. the rain we didn't take our umbrellas.

a. *Although* b. *Despite* c. *However* d. *Even though*

The second part was a paragraph with missing connectors. Students were asked to choose the most appropriate connector to fill in a blank. For example:

<i>However</i>	<i>In conclusion</i>	<i>as a result</i>	<i>On the other hand</i>	<i>consequently</i>
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1. The experience of learning English

In my opinion, learning English is an exciting experience.

....., your views on the world open up as you get to know a

different culture., it may take you several years to be able to speak in the target language., some people may give it up., you can always visit England to try and learn it quicker., it is worth trying to learn a foreign language.

The third part of the test was a reading comprehension, where they were required to answer reading comprehension questions based on understanding of connectors. All the tests took two periods and a half (2 hours and 30 minutes) and they were administered by the researcher. The same tests were given after one week of instruction. The instruction was based on logical connectors. Students were taught the connectors, their meanings, functions, and their suitable positions in the sentences. Then, they were given activities related to the instruction. The data was dealt with manually. The three tests were used to investigate the four research questions:

- a- Writing test was conducted to investigate the first, second, and third research questions to find out the most common connectors used in students writing, if there are incorrect uses of connectors, and if there is a correlation between the use of connectors and writing quality.
- b- Production and comprehension tests were conducted to investigate the fourth research question to find out whether the students understand the functions of connectors or not.

The following sections explain the methods above focusing on their reliability, validity, and procedures.

3.2.1. Data Analysis

In order to analyze the data, some statistical tools were used including: Frequency (the number of times the event occurred in an experiment or study), Mean (the average that is used to derive the central tendency of the data in question), Standard Deviation (a measure of the range of values in a set of numbers), and T-test (the independent-samples t-test compares the means between two unrelated groups on the same continuous, dependent variable).

3.2.2. Piloting the Study

In order to confirm the format of LCs, the test was piloted using 10 students from the same target population. The same test was given later to the control and experimental group. The students did not encounter any difficulty in the format of the questions. A few modifications were made in wording some questions in order to ensure clarity.

3.2.3. Reliability and Validity

In order to ensure the validity, the tests and questions given were presented to three associate professors at the Department of the English Language and Literature at the University of Bahrain for review and opinions. They were informed about the research purpose and questions. A few suggestions were made by the experts and frequent modification was made to ensure validity and clarity.

As for reliability, Alpha Cronbach' was used to assess the reliability of the multiple choice and reading comprehension test, and inter-class reliability was used to test the reliability of the 3 assessors.

Table (2) Reliability of the multiple-choice test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.974	.977	3

Table (3) Inter-Item Correlation between the 3 Assessors in the Pre-Test
The Reliability of multiple-choice test

Inter-Item Correlation Matrix			
	Assessor 1	Assessor 2	Assessor 3
Assessor 1	1.000	.935	.922
Assessor 2	.935	1.000	.943
Assessor 3	.922	.943	1.000

In both pre-test and post-tests; the reliability of rating the compositions written by the participant students by three instructors was investigated using alpha Cronbach' and inter-class reliability available at SPSS. The results showed that the test has a high reliability as can be shown in the reliability of the ratings given by the three assessors for the pre-test (table 2); alpha vonbaikh= .977 and the interclass reliability showed a high reliability between the marks of the three assessors. Table (3) shows that

there was a high correlation between assessor 1 (.935), assessor 2 (.943) and assessor 3 (.922) in the pre-test.

Table (4): Reliability of the reading comprehension test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.970	.970	3

Table (5) correlation between 3 assessors in the post-test

Inter-Item Correlation Matrix			
	Assessor 1	Assessor 2	Assessor 3
Assessor 1	1.000	.947	.879
Assessor 2	.947	1.000	.922
Assessor 3	.879	.922	1.000

These results are also confirmed in the reliability of the grades given the three assessors to the compositions in the post-test (table 5). The results showed that the test has a high reliability as can be shown in the reliability of the ratings given by the three assessors for the post-test; alpha vonbaikh= .970 and the interclass reliability showed a high reliability between the marks of the three assessors. Table (4) shows that there was a high correlation between assessor 1 (.947), assessor 2 (.922) and assessor 3 (.879) in the post-test.

Therefore, Inter-rater reliability is very reliable as confirmed by the reliability test in the pre- and post-tests.

3.2.4. Summary

This chapter stated the four research questions and the description of the study. The chapter also provided a brief summary of the procedures used in teaching the experimental group, which was taught LCs. It also explained how the four research questions were tested using three data collection methods: the reading comprehension test, production test, and the writing test. Also, the data analysis plan was discussed. The results of these data collection methods are stated and discussed in chapter four.

CHAPTER FOUR

Data Analysis and Discussion

CHAPTER FOUR

Data Analysis and Discussion

4.0. Introductory Note

This chapter is divided into four sections. The first section answers the first research question by presenting and discussing the frequency results of the most common connectors used in students' writing in the pre-test and post-test by both groups; control and experimental. The second section answers the second research question by presenting and discussing the statistical results of incorrect uses of logical connectors. It compares the results of missing LCs, unneeded LCs and misuse of LCs. The third section provides the answer of the third research question by comparing the results of the post-test and pre-test of the experimental group in the writing test, and it examines the correlation between the use of connectors and writing quality. The last section presents and discusses the answer of the fourth research question by displaying the statistical results and comparing the results between the control group and experimental group to investigate the students' understanding of the functions of LCs.

4.1. Frequency of LCs in Students Writing

This section reports the frequency of the most common connectors used in students' writing in the pre-test and post-test by the control group and the experimental group (Table 6).

Table (6): Frequency of LCs by the experimental group

Logical connectors	Frequency (token)	
	Pre-test	Post-test
And	84	18
But	25	9
On the one hand	9	11
Also	8	15
So	8	13
On the other hand	3	17
As a result of	3	9
Firstly	1	7
Secondly	1	3
Because	5	1
However	1	9
Plus	1	5
Furthermore	2	13
Moreover	1	18
Although	2	13
Therefore	0	10
Due to	0	5
Despite	0	5
Nevertheless	0	6
In addition	0	13
Similarly	0	3
Thus	0	4

As can be seen from table (6), the most frequent connector in the pre-test is “and” (84 times); however this decreased to only 18 times in the post-test. That might be because they are familiar with “and” more than the other connectors. After the students received instruction in LCs, it is expected that the students will demonstrate a variety of use. Students used other “addition” connectors in the post-test instead of “and”. Including:

also, furthermore, moreover, and in addition. This reflects the positive effect of teaching LCs.

Students used the connector “however” one time in the pre-test and it increased to 18 times in the post-test. By contrast, they used other “contrast” connectors more than in the pre-test; *on the other hand* (17 times), *although* (13 times), *despite* (5 times), *nevertheless* (6 times). In addition to this finding, there were some connectors that were not used in the pre-test including: *therefore, due to, despite, nevertheless, in addition, similarly, and thus.* After instruction, students used them in the post-test: *Therefore* (10 times), *due to*, (5times), *despite* (5 times), *nevertheless* (6 times), *in addition* (13 times), *similarly* (3 times), and *thus* (4 times). In conclusion, these results clearly indicate that students started writing more logical connectors in the post-test because of that teaching LCs is likely to improve competence in producing more coherent texts. On the pre-test, students used mainly the connector “and” in adding any point, whereas on the post-test students used “and” less than the pre-test and instead they used different adding connectors because they were taught about the LCs. Therefore, two things were obvious in the post-test; there were more and variety of LCs as it is shown in figure (1).

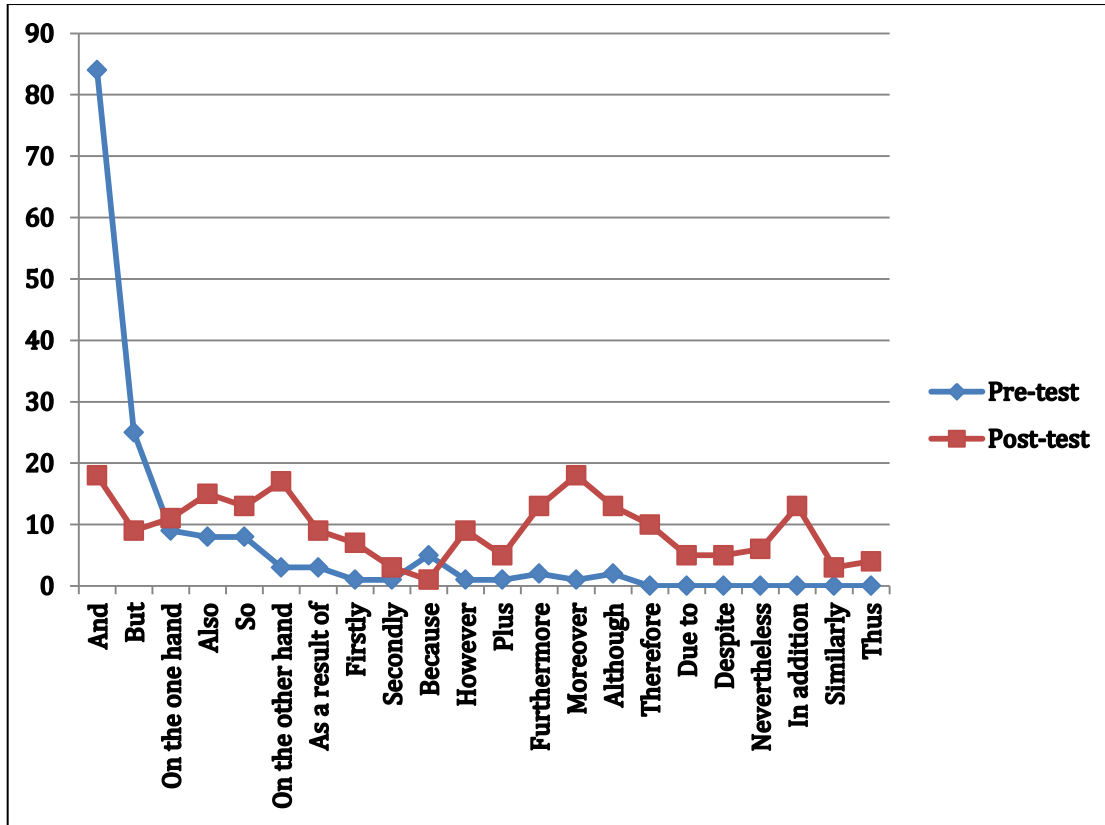


Figure (1): Frequency of LCs by the Experimental Group

In contrast to the experimental group, the control group showed a similar pattern in the pre-test but a different one in the post-test (Table 7).

Table (7): Frequency of LCs in Control Group

Logical connectors	Frequency	
	Pre-test	Post-test
And	80	79
But	23	24
On the one hand	10	11
Also	9	8
So	8	9
On the other hand	3	2
As a result of	4	3
Firstly	1	2

Secondly	0	1
Because	4	3
However	1	2
Plus	1	2
Furthermore	2	0
Moreover	2	1
Although	1	1
Therefore	0	0
Due to	0	0
Despite	0	0
Nevertheless	0	0
In addition	0	0
Similarly	0	0
Thus	0	0

As can be seen in table (7), similar to the experimental group, the control group used the connector “and” the most in the pre-test (80); however, unlike the experimental group, this number stayed almost the same in the post-test (79). This same pattern of similarity between the experimental group and the control group in the post-test is also reflected in the use of “but”; and almost the same number of its occurrences is maintained by control group in the post-test and pre-test. They used the connector “but” in the pre-test (23) and (24) in the post-test. It seems that the easiest connector for the students were “and” and “but”. The other connectors “*on the one hand*”, “*also*”, “*so*”, “*on the other hand*”, “*as a result of*”, “*firstly*”, “*secondly*”, “*because*”, “*however*”, “*plus*”, “*furthermore*”, “*moreover*”, and “*although*” were rarely used in the pre-test and the post-test. Some connectors, including (*in addition*, *similarly*, *thus*, *therefore*, *due to*, *despite*, *nevertheless*) were not used at all neither in the pre-test nor in the post-test. In other words; the results of the tokens were

similar in the pre-test and post-test for the control group as it is shown in figure (2).

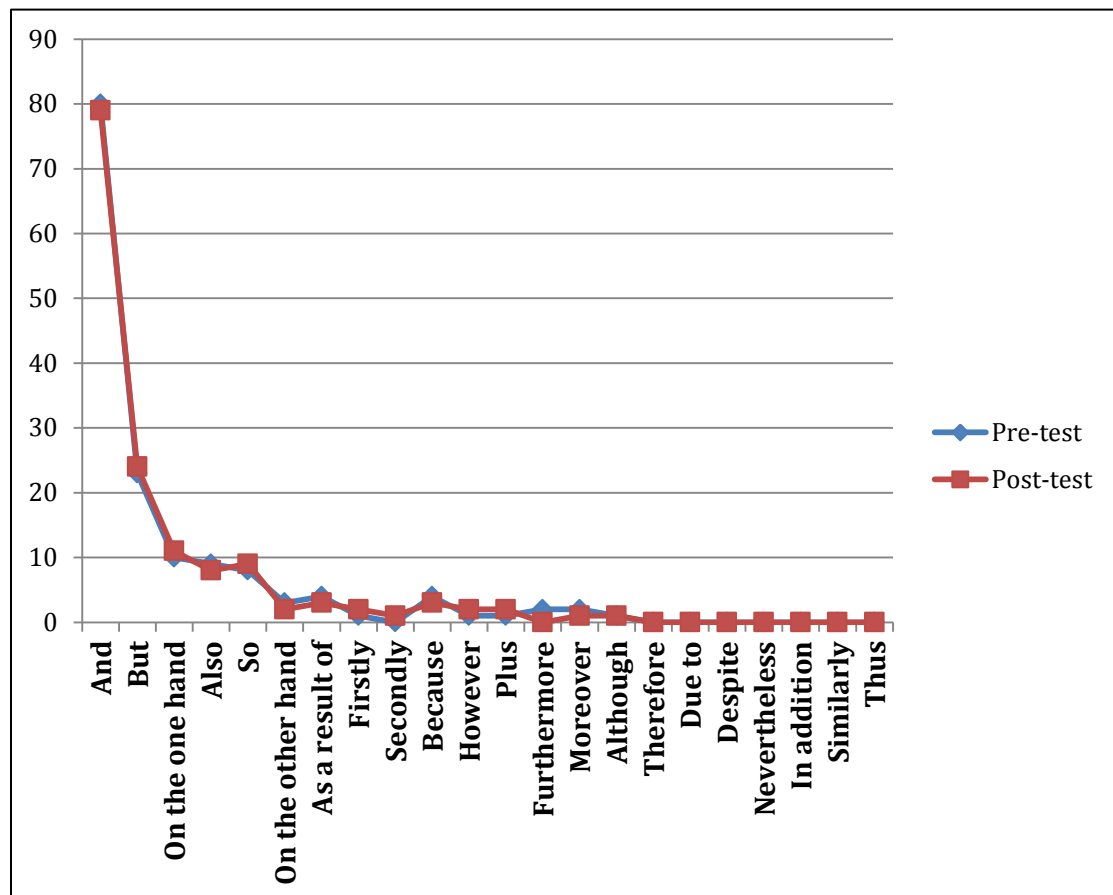


Figure (2): Frequency of LCs in Control Group

By comparing the type/token of LCs used in both groups of students in the pre-test and post-test in essay writing, there was an increase in the use of LCs by the experimental group in the post test but there was no difference in the use of LCs in the post test of control group. Therefore, the results indicate a clear difference in both type and token.

It is found that the most common connector used in students' writing was "and" which was the most frequent in the pre-test (84) and in the post-test (18) in the experimental group. Then, in the second position, "but" which

was (25) in the pre-test, whereas in the post-test “moreover” was in the second position (18). There were 7 LCs that were not used in the pre-test including: therefore, due to, despite, nevertheless, in addition, similarly, and thus. However, they were used in the post-test. The rest of the LCs were not considered frequent.

To answer the research question, the most common connectors were highlighted in terms of type and token. The tables (6) & (7) and figures (1) and (2) show that the students in both groups use the connectors “and” and “but” more than any other connectors. The experimental group generally used more connectors in the post-test than the pre-test, which shows the positive effect of teaching the logical connectors to the students. In addition, students in the post-test used different kind of logical connectors and did not depend on certain connectors because they were taught about the connectors. Similarly, in the control group students also used “and” and “but” more than the other connectors but the results were similar in the pre-test and post-test. Furthermore, the students depended on certain connectors and they did not use more connectors. They used almost the same connectors (and, but, also, because, so) in each paragraph.

The finding of this research question is consistent with the finding of Tanko’s study (2004) that non-native speakers use fewer types of logical connectors than the native speakers. The students did not use a variety of logical connectors in the pre-test but used more connectors in the post-test after implementing teaching. Similarly, Patanasorn (2010) finds out that effective writings have different logical connectors. In contrast, Crew (1990) states that non-native speakers overuse logical connectors not underuse, and Hinkel (2001) also found that all non-native speakers use

logical connectors more than the native speakers. In addition, Mudhhi and Hussein also found that Kuwaiti EFL learners overused logical connectors. The results of this study contradict those studies because in our findings Bahraini EFL students underuse the logical connectors and they rarely use them except for the connectors (and, but), and that may be the result of lack of knowledge.

The findings of this research contradict Anderson (2014) who states that higher-level students use fewer connectors than the other students, because underusing LCs will result in missing LCs and thus will cause problems in the text. The results of the present study indicate that instruction of LCs leads to higher frequency and variety in the use of LCs.

As the findings show, use of the connector “and” is overused, confirming Ishikawa’s (2009) statement that foreign learners overuse additive linking connectors. The additive “and” is used frequently by native and non-native speakers (Halliday and Hassan, 1976). Furthermore, the findings seem to highlight the positive effect of teaching LCs to the students, whereas there was no progress in the use of connector in the absence of teaching in the control group. Students in the control group used the same LCs in the pre-test and the post-test with almost the same frequency. However, in the experimental group; students used more logical connectors.

The findings of this study contradict Martin et al.’s (2005) study in which it was found out that there was no significant increase in the use of connectors following instruction in LCs and they attributed this to short duration of the instruction. Although the duration of instruction of this

study was one week, there was a clear progress in the post-test. This reveals that the duration of teaching is not a factor for development in the use of logical connectors.

4.2. Incorrect Use of Logical Connectors.

Logical connectors were analyzed by exploring the students' types of errors to measure the effect of teaching on the experimental group. The results of the tests are presented in the form of frequencies and percentages of each error type made by the student. In addition, independent sample t-test was performed to investigate if there was a significant difference between the performance of each group in the pre-test and the post-test. In addition, paired samples t-test was used to compare the two groups in each test by the mean (*M*) and the standard deviation (*SD*) on each test (table 8).

Table (8) Standard Deviation and Mean difference between groups

Groups			Missing LCs	Unneeded LCs	Misuse LCs	Writing Quality
CG	Pre	<i>M</i>	4.87	2.03	2.33	5.57
		<i>SD</i>	1.852	1.129	1.422	1.557
	post	<i>M</i>	4.97	1.80	1.80	5.39
		<i>SD</i>	2.220	1.424	1.518	1.563
EG	Pre	<i>M</i>	4.87	2.07	2.43	5.16
		<i>SD</i>	2.129	1.285	1.478	1.968
	Post	<i>M</i>	2.63	1.33	1.17	7.41
		<i>SD</i>	1.712	1.093	1.177	1.672

Table (8) presents the mean (M) and standard deviation (SD) for the three error types of the LCs for the two groups. It gives a clear comparison of the two groups. This comparison can provide insight into the areas of weaknesses in using LCs. The table shows that the two groups (CG and EG) made almost an equal number of missing LCs on the pre-test; missing LCs (M=4.87, M=4.87); unneeded LCs (M=2.03, M=2.07); misuse LCs (M=2.33, M=2.43) and the post-test; missing LCs (M=4.97, M=2.63); unneeded LCs (M=1.80, M=1.33); misuse LCs (M=1.80, M=1.17). However, missing LCs were the least type affected in the post-test among the other two categories (unneeded and misuse LCs). The highest scores of the writing quality for the students in the pre-test were in the “missing LCs” category, followed by “misuse LCs” and “unneeded LCs” (missing LCs is based on the judgment of the assessors). In the post-test, the mean of the writing quality were the highest in the “missing LCs” for the experimental group and were fewer in the experimental group than the control group. The results showed that the experimental group made fewer errors in “missing LCs”; (M=4.87 for CG in comparison with the EG M=2.63). Therefore, the errors in “missing LCs” of the control group were similar in the two tests.

The results of pre-test and post-test of the experimental group (table 8) indicate a clear decrease in the mean of the “unneeded LCs” (from M=2.07 to M=1.33), and the “misuse of LCs” (from M=2.43 to M=1.17). In addition, there was a difference in the mean of “misuse LCs” (from M=2.43 to M= 1.17), and a remarkable decrease in errors of “missing LCs” (from M= 4.87 to M=2.63).

The opposite was true for the control group (table 8). There was a slight difference in the mean of the “misuse LCs” (from M=2.33 to M=1.80),

and the “missing LCs” (from M=4.87 to M=4.97). Although “unnneeded and misuse LCs” still play a role in the use of LCs, they were almost the same in control group, but decreased in the experimental group. These results indicated the positive effect of teaching the use of LCs in students’ writing.

The results indicate that students’ mean scores for the EG for all the types of errors decreased in the post-test. In addition, it is shown that students used fewer logical connectors in the pre-test than in the post-test as it is shown in figure (3). It also indicates that students in the pre-test missed many LCs which means they did not use LCs in their writing and that is the reason their writing were rated low by the raters poor and incoherent in the pretest. Therefore, the finding of this research are consisted with Khuwaileh and Shomali (2000) who found that students’ writing becomes weak if there is a lack of logical connectors (pp.174-183).

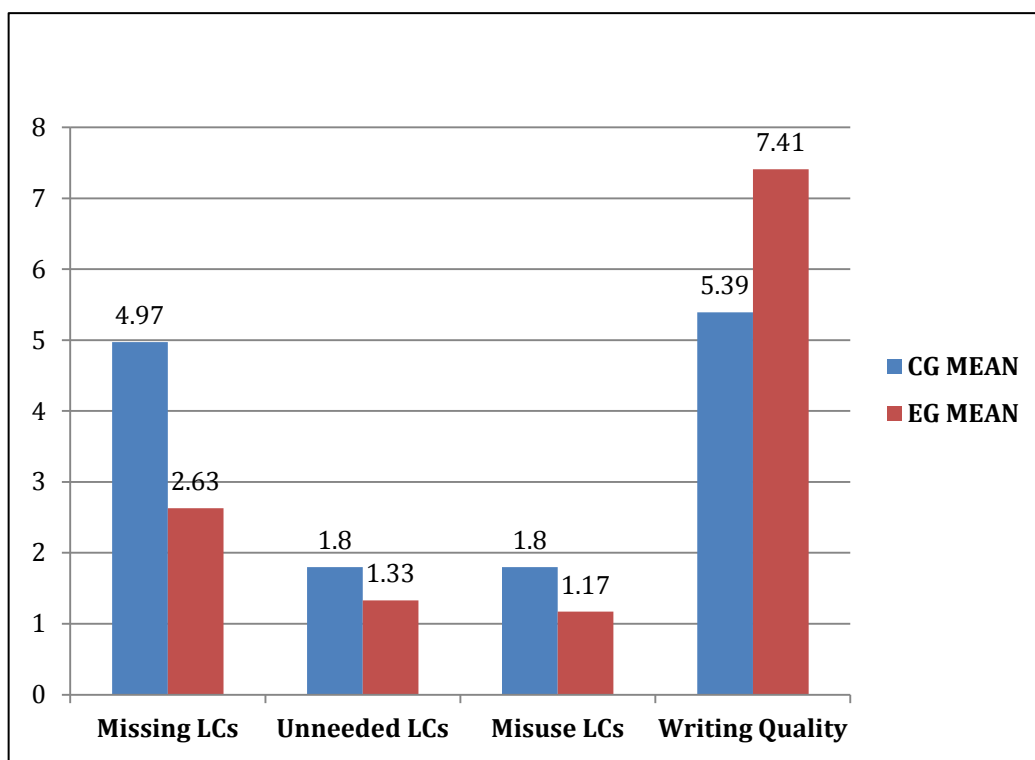


Figure (3): Means Difference between Groups in Post Tests

Table (9) Independent Samples Test in CG and EG

Errors	Test	Mean	Std. Deviation	T	Sig.
Missing LCs	CG	4.97	2.220	4.559	.000
	EG	2.63	1.712		
Unneeded LCs	CG	1.80	1.424	1.424	.160
	EG	1.33	1.093		
Misuse LCs	CG	1.80	1.518	1.806	.076
	EG	1.17	1.177		
Writing quality	CG	5.39	1.563	-4.825	.000
	EG	7.41	1.672		

Table (9) shows the results of the independent samples t-test for the experimental group and the control group on the post-test of logical connectors. In table (9) the mean of the unneeded LCs was not significantly lower in the experimental group ($M=1.33$, $SD=1.093$) than in the control group ($M=1.80$, $SD=1.424$); $t=1.424$, $p=.160>0.05$. Also, the mean score of misuse LCs was not significantly lower in the experimental group ($M=1.17$, $SD=1.177$) than in the control group ($M=1.80$, $SD=1.518$); $t=1.806$, $p=.076>0.05$. In contrast, the experimental group scored significantly lower on the missing LCs ($M=2.63$, $SD=1.7129$) than the control group ($M=4.97$, $SD=2.220$); $t=4.559$, $p=.000<0.05$. Similarly, the means scores of the experimental group were significantly higher on the writing quality ($M=7.41$, $SD=1.672$) than the mean scores of the control group ($M=5.39$, $SD=1.563$); $t=-4.825$, $p=.000<0.05$. Therefore, table (9) reveals that the use of logical connectors of the experimental group was significantly better than the control group after the implementation of teaching. The results seem to

indicate a clear improvement of using the LCs in the experimental group's post-test after implementing teaching. Noticeably, the results of the errors revealed that students missed many LCs which indicated that students are not familiar with many LCs. Thus, resulting in less coherent texts.

4.3. Relationship between Use of Connectors and Writing Quality

This section discusses the relationship between the use of “missing LCs, unneeded LCs, misuse of LCs and the writing quality.

Table (10) Correlation between the LCs and writing quality

Correlations					
		Missing L.C	Unneeded L.C	Misuse of L.C	Writing Quality
Missing L.C	Pearson Correlation	1	.305*	.119	-.882**
	Sig. (2-tailed)		.018	.364	.000
	N	60	60	60	60
Unneeded L.C	Pearson Correlation	.305*	1	.413**	-.438**
	Sig. (2-tailed)	.018		.001	.000
	N	60	60	60	60
Misuse of L.C	Pearson Correlation	.119	.413**	1	-.344**
	Sig. (2-tailed)	.364	.001		.007
	N	60	60	60	60
Writing Quality	Pearson Correlation	-.882**	-.438**	-.344**	1
	Sig. (2-tailed)	.000	.000	.007	
	N	60	60	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

Table (10) shows that there was a significant correlation between the use of logical connectors and writing quality. On the post test, there was a significant negative correlation between missing LCs and the writing quality (corr=-.882 p=.000<0.05).

This means that the more missing LCs, the lower the general grade for writing, as judged by assessors. Another significant negative correlation was between unneeded LCs and writing quality (corr=-.438, p=.000<0.05). In addition, there was a negative correlation between the misuse of LCs and writing quality (corr=-.344, p=.007<0.05).

The findings indicate that there was a significant negative correlation between the errors in the use of logical connectors (missing, unneeded, and misuse LCs) and the writing quality. These errors affect the overall grade of the writing.

Table (11) Independent Samples Test for the LCs and writing quality

	Leven's Test for Equality of Variances	t-test for Equality of Means							
								95% Confidence Interval of the Difference	
	F	Sig.	t	Df	Sig.(2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Missing LCs	.186	.668	-.189	58	.850	-.10000	.52788	-1.15667	.95667
			-.189	56.191	.850	-.10000	.52788	-1.15739	.95739
Unneeded LCs	2.761	.102	.703	58	.485	.23333	.33178	-.43079	.89746
			.703	55.134	.485	.23333	.33178	-.43153	.89819
Misuse of LCs	.262	.611	1.404	58	.166	.53333	.37976	-.22683	1.29350
			1.404	57.757	.166	.53333	.37976	-.22690	1.29357
Writing Quality	.135	.715	.454	58	.652	.18267	.40278	-.62358	.98892
			.454	57.999	.652	.18267	.40278	-.62358	.98892

Table (11) presents the results of the independent samples t-test for the control group on the post-test of logical connectors. The control group scores are not significant in the missing LCs ($t=-1.189$, $p=.850>0.05$). The unneeded LCs were not significant ($t=.703$, $p=.485>0.05$). Also, the scores in the misuse LCs was not significant ($t=1.404$, $p=.166>0.05$). Similarly, the scores of the control group were not significant on the writing quality ($t=.454$, $p=.652>0.05$). The table shows that the CG did not show any improvement of the use of LCs in the post-tests in the three categories. Thus, there was no significant relationship due to the absence of teaching.

Table (12) Correlation between the LCs and writing quality on the post-test

Correlations					
		Missing L.C	Unneeded L.C	Misuse of L.C	Writing Quality
Missing L.C	Pearson Correlation	1	.023	-.094	-.819**
	Sig. (2-tailed)		.859	.475	.000
	N	60	60	60	60
Unneeded L.C	Pearson Correlation	.023	1	.208	-.205
	Sig. (2-tailed)	.859		.110	.116
	N	60	60	60	60
Misuse of L.C	Pearson Correlation	-.094	.208	1	-.141
	Sig. (2-tailed)	.475	.110		.283
	N	60	60	60	60
Writing Quality	Pearson Correlation	-.819**	-.205	-.141	1
	Sig. (2-tailed)	.000	.116	.283	
	N	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

Table (12) reveals that there was a significant correlation between the use of logical connectors and writing quality on the post test, there was a significant negative correlation between missing LCs and the writing quality ($\text{corr}=-.819$, $p=.000<0.05$). On the contrary, there was an

insignificant negative correlation between unneeded LCs and writing quality ($\text{corr} = -.205$, $p = .116 > 0.05$). Similarly, there was an insignificant negative correlation between misuse of LCs and writing quality as well ($\text{corr} = -.141$, $p = .283 > 0.05$).

The findings indicated that there was a negative correlation between the scores of logical connectors (missing, unneeded, and misuse LCs) and the writing quality. Thus, they show the relationship between the use of connectors and writing quality.

As it is shown from the table, the correlation is coefficient between the use of connectors and the writing quality, which is an indication of a significant relationship between the two. The findings indicated that the improvement of the students' errors affected their writing quality. When the errors were high the writing was poor, whereas when there were few errors in LCs; the writing was strong. It is obvious that there was a strong relationship between the use of connectors and writing quality. The increase of the correct use of LCs increased the overall score of the writing. In other words, there was a significant correlation between the use of connectors and writing quality. The findings confirmed the view of (Jafarpur, 1991; Linnarud, 1979; Geva, 1992; Golman & Murray, 1992; Chung, 2000; Ozono, 2002; Ito, 2003) who had similar findings in their studies that there is a relation between LCs and writing quality. They even stated that the better knowledge students have in LCs; the better writer they become because they will be better in language proficiency.

Lahuerta (2002) supported Intataprawat and steffensen (1995) in the strong connection between the use of LCs and strong writings. They

agree that students who's essays are weak; do not know many LCs. In contrast the strong essays were full of different LCs.

4.4. Comprehension and production

Table (13) Comprehension and production tests between groups

Groups			Comprehension	Production	writing quality
CG	Pre	<i>M</i>	4.4000	2.4833	5.5707
		<i>SD</i>	2.49630	2.07399	1.55810
	post	<i>M</i>	4.2000	2.2833	5.4223
		<i>SD</i>	2.60503	1.92839	1.55721
EG	Pre	<i>M</i>	4.3833	2.2833	5.1667
		<i>SD</i>	2.60862	2.08725	1.98085
	Post	<i>M</i>	8.1667	8.8167	7.4053
		<i>SD</i>	1.53877	1.36131	1.67241

Table (13) presents the results in mean and standard deviation for the three types of the tests for the experimental group and control group. It gives a comparison of the two groups. This comparison can provide insight into the areas of students' errors in these three tests; also it will show students' understanding of the functions of logical connectors. The table shows that the two groups (CG and EG) made almost an equal number of errors as demonstrating mean and standard deviation in comprehension pre-test ($M=4.4000$, $SD=2.49620$ and $M=4.3833$, $SD=2.60862$). However, there was a substantial difference in the post-test ($M=4.2000$, $SD= 2.60503$ and $M=8.1667$, $SD=1.53877$). The table shows that the two groups (CG and EG) made almost similar results in the pre-

test ($M=2.4833$, $SD=2.07399$ and $M=2.2833$, $SD=2.08725$). However, there was a clear difference in the post-test ($M=2.2833$, $SD=1.92839$ and $M=8.8167$, $SD=1.36131$). Moreover, the results showed a slight difference in the mean for the pre-test of the writing quality in the both groups ($M=5.5707$ and $M=5.1667$). Whereas, the results showed a substantial difference in the post-test ($M=5.4223$ to $M=7.4053$) as it is shown in figure (4).

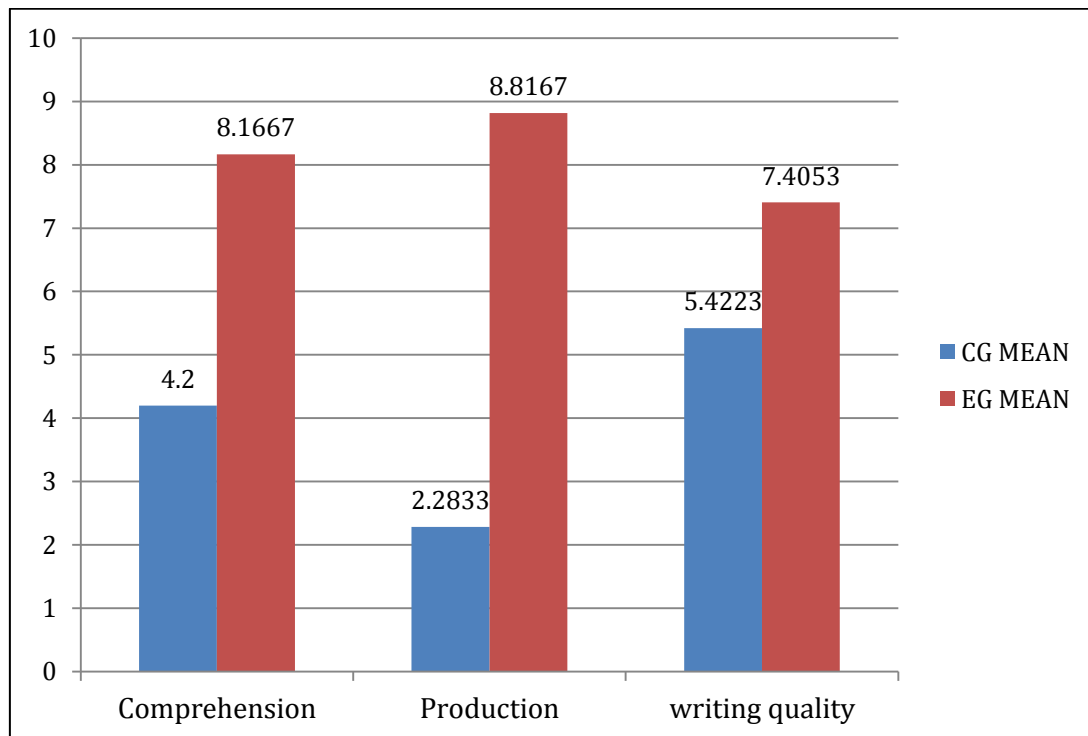


Figure (4): Comprehension and Production Post Tests between Groups

Table (14) Comprehension and Production Tests within CG

Groups			Comprehension	Production	writing quality
CG	Pre	<i>M</i>	4.4000	2.4833	5.5707
		<i>SD</i>	2.49630	2.07399	1.55810
	Post	<i>M</i>	4.2000	2.2833	5.4223
		<i>SD</i>	2.60503	1.92839	1.55721

The results of pre-test and post-test of the experimental group (table 14) indicated similar results in the mean of the “comprehension test” (from M=4.4000 to M=4.2000), and the “production test” (from M=2.4833 to M=2.2833). In addition, there was also no difference in the mean of “writing quality” (from M=5.5707 to M= 5.4223) as it is shown in figure (5).

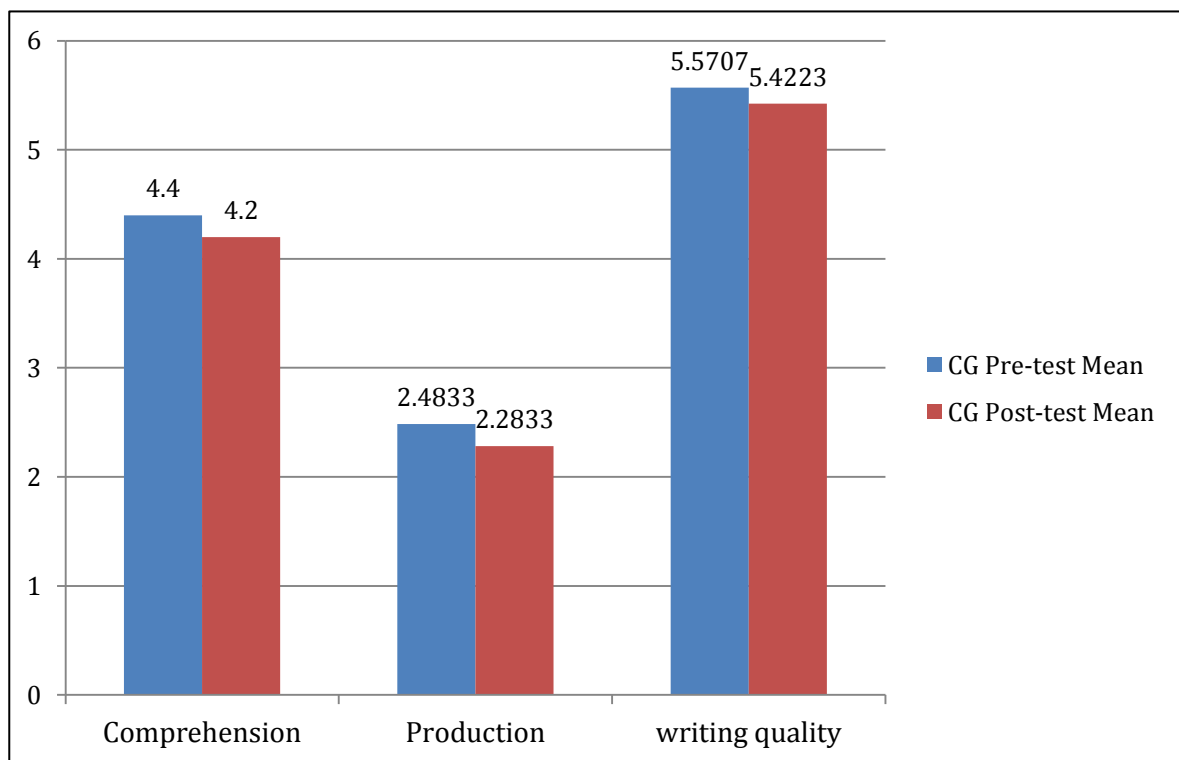


Figure (5): Comprehension and Production Tests within CG

Table (15) Comprehension and Production Tests within EG

Groups			Comprehension	Production	writing quality
EG	Pre	<i>M</i>	4.3833	2.2833	5.1667
		<i>SD</i>	2.60862	2.08725	1.98085
	Post	<i>M</i>	8.1667	8.8167	7.4053
		<i>SD</i>	1.53877	1.36131	1.67241

The opposite was true for the Experimental group (table 15). There was a clear increase in the mean of the “comprehension test” (from M=4.3833 to M=8.1667), and a big difference in “production test” (from M=2.2833 to M=8.8167). In addition, there was an increase in the mean of writing quality (from M=5.1667 to M=7.4053). These results indicated the positive effect of teaching the use of LCs in students’ comprehension and production tests as it is shown in figure (6).

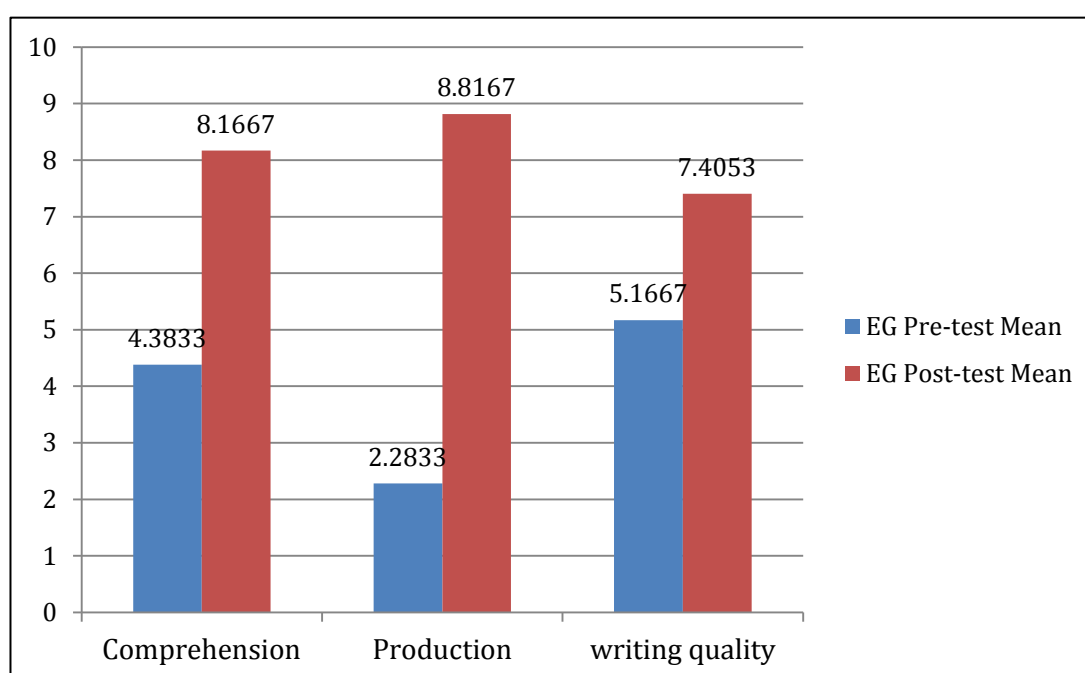


Figure (6): Comprehension and Production Tests within EG

Table (16) Independent Samples Test for Students' Comprehension and Production Tests

Test		Mean	Std. Deviation	T	Sig.
Comprehension	CG	4.2000	2.60503	-7.181	.000
	EG	8.1667	1.53877		
Production	CG	2.2833	1.92839	-15.160	.000
	EG	8.8167	1.36131		
Writing quality	CG	5.4223	1.55721	-4.753	.000
	EG	7.4053	1.67241		

Table (16) shows the results of the independent samples t-test for the experimental group and the control group on the post-test of logical connectors in (comprehension, production, and writing quality). The mean of the comprehension test was significantly higher in the experimental group ($M=8.1667$, $SD=1.53877$) than in the control group ($M=4.2000$, $SD=2.60503$); $t=-7.181$, $p=.000<0.05$. The mean score of the production test was significantly higher in the experimental group ($M=8.8167$, $SD=1.36131$) than in the control group ($M=2.2833$, $SD=1.92839$); $t=-15.160$, $p=.000<0.05$. Moreover, the experimental group scored significantly higher on the writing quality test ($M=7.4053$, $SD=1.67241$) than the control group ($M=5.4223$, $SD=1.55721$); $t=-4.753$, $p=.000<0.05$. This table reveals that the use of logical connectors of the experimental group in the three tests were significantly better than the control group after the implementation of teaching.

Table (17) Descriptive Statistics

Group Statistics					
	Groups	N	Mean	Std. Deviation	Std. Error Mean
Comprehension	Pre-test	30	4.3833	2.60862	.47627
	Post-test	30	8.1667	1.53877	.28094
Production	Pre-test	30	2.2833	2.08725	.38108
	Post-test	30	8.8167	1.36131	.24854

Table (17) shows students' understanding of the functions of the logical connectors in the post-test of the experimental group. The mean score of the comprehension test was higher in the post-test ($M=8.1667$, $SD=1.53877$) than in the pre-test ($M=4.3833$, $SD=2.60862$). Also, the mean score of the production test was higher in the post-test ($M=8.8167$, $SD=1.36131$) than in the pre-test ($M=2.2833$, $SD=2.08725$). This table reveals the use of logical connectors after understanding the functions of each connector, which was better in the post-test than the pre-test.

Table (18) Independent Samples Test of the Relationship between Knowledge of LCs and Comprehension and Production of Tests

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Comprehension	8.255	.006	-6.842	58	.000	-3.78333	.55295	-4.89019	-2.67648
			-6.842	47.002	.000	-3.78333	.55295	-4.89573	-2.67094
Production	1.306	.258	-14.360	58	.000	-6.53333	.45496	-7.44404	-5.62262
			-14.360	49.891	.000	-6.53333	.45496	-7.44720	-5.61946

Table (18) presents the results of the independent samples t-test for the Experimental group on the post-test of logical connectors in (Comprehension, and production). The experimental group score is significant in the comprehension test ($t=-6.842$, $p=.000<0.05$). Also, the scores in the production test was significant ($t=-14.360$, $p=.000>0.05$). The table reveals that the Experimental group shows improvement in the students level after understanding the functions of the logical connectors.

The finding supported the assumptions of Tomiyama (1980), Molina (1995), and Geva and Ryan 1985 that students use the connectors appropriately if they understand the functions of the LCs. Moreover, they agreed that if students do not know the functions of the LCs, they misuse them or do not use them at all.

4.4.1. Comprehension and Production Correlation with Writing Quality

Table (19)
Pearson Correlation Coefficient of the Reading, Production,
and Writing Quality in the Pre-test and Post-test

Correlations							
		Comprehension 1	Production 1	Overall 1	Comprehension 2	Production 2	Overall 2
Comprehension 1	Pearson Correlation	1	.093	.099	.984**	.133	.019
	Sig. (2-tailed)		.625	.601	.000	.483	.922
	N	30	30	30	30	30	30
Production 1	Pearson Correlation	.093	1	.190	.058	.975**	.161
	Sig. (2-tailed)	.625		.314	.760	.000	.396
	N	30	30	30	30	30	30
Overall 1	Pearson Correlation	.099	.190	1	.148	.180	.924**
	Sig. (2-tailed)	.601	.314		.436	.342	.000
	N	30	30	30	30	30	30
Comprehension 2	Pearson Correlation	.984**	.058	.148	1	.088	.069
	Sig. (2-tailed)	.000	.760	.436		.644	.716
	N	30	30	30	30	30	30
Production 2	Pearson Correlation	.133	.975**	.180	.088	1	.126
	Sig. (2-tailed)	.483	.000	.342	.644		.508
	N	30	30	30	30	30	30
Overall 2	Pearson Correlation	.019	.161	.924**	.069	.126	1
	Sig. (2-tailed)	.922	.396	.000	.716	.508	
	N	30	30	30	30	30	30
**. Correlation is significant at the 0.01 level (2-tailed).							

Table (19) reveals that there was a significant correlation between the comprehension and production tests and the writing quality. On the post test, there was a significant positive correlation between the comprehension test and writing quality (corr=.984, $p=.000<0.05$). Similarly, there was a

significant positive correlation between the production test and writing quality ($\text{corr} = .975, p = .000 < 0.05$).

All in all, the findings indicated that there was a positive correlation between the scores of reading comprehension, production tests and the writing quality. Thus, the results indicated the improvement of the students' errors affected their writing quality. When the errors were high the writing was poor, whereas when there were few errors in reading comprehension and production; the writing was strong.

In conclusion, the major findings of the use of LCs in students' reading and writing revealed that the Bahraini students in the third secondary level benefitted from the implementation of teaching. As far as the results of the post-test were concerned, the students in the experimental group showed better and obvious results than the control group; that did not show any progress.

4.5. Summary

The results of this study have a number of indications. To begin with, it indicated the positive value of teaching logical connectors to the students. It also revealed that the participants showed positive attitudes in using LCs in the writing, comprehension, and production test. The next section summarizes the main research findings.

CHAPTER FIVE

Conclusion and Implications

CHAPTER FIVE

Conclusion and Implications

5.0. Introductory Note

This section provides a summary of the main results and draws some conclusions based on the findings of this study. In addition, it would give some recommendations to the English teachers and curriculum designers. Finally, implications for future research are proposed.

5.1. Conclusion

This study aimed at investigating the use of logical connectors in students reading and writing of Bahraini EFL third year students at secondary schools. It basically aimed at investigating the most common connectors used in students' writing and the incorrect uses of logical connectors. It also aimed at examining the correlation between the use of connectors and the writing quality in students' writing. In addition, it also found out if students understand the functions of logical connectors. Accordingly, two sample groups were selected to be the participants of the study, experimental group (EG) and control group (CG). Experimental group was taught the connectors and their functions, while the control group was not taught the connectors.

The data of the study was collected by using three tests: a writing test, production test, and reading comprehension test. Both groups had the same tests. At the end of one-week experiment, the same two groups had post-test in writing, production, and reading comprehension. The only difference was that the experimental group was taught the logical

connectors and their functions after the pre-test, whereas the control group did not have any instructions about the connectors.

According to the statistical data analysis, some conclusions can be drawn from this study. First, there was a significant difference between the control group and the experimental group on the writing test, production test, and reading comprehension test. This suggests the improvement in the results of the tests in the experimental group was achieved as a result of teaching students the use of connectors. The results indicated that implementing instruction is a positive and successful strategy to use in the classroom. Second, The most common connector was used (and) in the pre-test of the control group and experimental group. In the post test of experimental group; the results changed by using other connectors instead of (and) such as (in addition, furthermore, also, etc) which indicated the positive effect of teaching the connectors to the students. They became more aware of other adding connectors. Whereas, the post-test of the control group was the same. Third, There were incorrect uses of logical connectors that were a mix of three main categories: missing LCs, unneeded LCs, and misuse of LCs. The results indicated that the most errors were in the missing LCs, followed by misuse of LCs and unneeded LCs. In other words, students rarely used connectors in their writing. There were many missing connectors. By the end of the experiment, it was shown that there was more progress in the use of connectors in the experimental group. The results showed that the experimental group made fewer errors in missing LCs. Therefore, it can be claimed that using connectors can be improved through enhancing instruction. Fourth, There was a correlation between the use of connectors and the writing quality. Students who used connectors incorrectly in their composition; their writings were poor and weak. The same students in the post-tests, showed

a great improvement in the writing quality in after using connectors in an appropriate way. Fifth, Students in the pre-test got very low marks in terms of writing quality by the three assessors because many connectors were missing. The students did not use many connectors and therefore, their writings were incoherent. Whereas, the same students in the experimental group showed a tendency to produce more correct connectors in the post-test and they decreased the incorrect uses of connectors. Thus, considering those points, teaching connectors is important at early stages of learning writing. Also, this is an indication that EFL learners are not exposed to the basics of English language. Therefore, their knowledge needs to progress in order to become good readers and writers.

Sixth, Students did not understand the functions of logical connectors. Thus, they did not use them in the writing. On occasions they used them, but they utilize them incorrectly. Also, students could not answer the production and reading comprehension tests correctly because they did not know the functions of logical connectors. Therefore, there was a significant difference between the scores of production test and the reading comprehension test of the students' pre-test and post-test. That was as the result of teaching the students the use of connectors and their functions. It can be suggested that the implementation of teaching is an effective strategy for the correct use and understanding of logical connectors. Seventh, there was a significant positive correlation between missing LCs, unneeded LCs, and misuse of LCs and the writing quality in the post-test of experimental group. Thus, it can be claimed that implementation of teaching has a positive effect in students' writing. When the errors were high; the writing was poor, whereas when there were few errors in LCs; the writing was strong. Therefore, there is a

strong connection between the use of LCs and strong writings as investigated by previous research.

In conclusion, the finding of this study reveals that the most common connectors used in students' writing is (and). Also, the results showed that students rarely use connectors in their writing because they do not know the connectors and their functions. In addition, the results showed that there is a correlation between the use of connectors and the writing quality. Last but not least, students developed in using the connectors in the post-test because of the teaching strategy.

5.2. Pedagogical Implications

Based on the findings of this study, EFL learners can be better readers and writers if they are taught about the logical connectors, their functions, and how to use them in appropriate places. Students should be aware of the importance of logical connectors and its effect on their writing quality. Therefore, teachers are advised to consider logical connectors as important tools in language teaching. They should increase students' understanding of the usage of logical connectors and their importance in writing and understanding any reading text. Teachers are advised to use different techniques in order to teach logical connectors. They have to explain them before any writing session. Teachers are encouraged to ask the students create posters using them and then attach them in the class so they see them every day, or give them extra activities using logical connectors and write the feedback. This will contribute in helping the students remember them.

It is recommended curriculum designers add extra materials using logical connectors and develop activities that benefit both the teachers and the

students, because as the results revealed that students rarely use any connectors, and their writings are not strong because of their inappropriate use of connectors. Therefore, English textbooks are not enough for the students in using logical connectors.

5.3. Implications for Further Research

More large scale studies should be conducted regarding the use of logical connectors in students reading and writing. In addition, our study was based on advanced level students from secondary school and they were female participants. It would be good if the same study will be on male students from different levels such as; beginners and intermediate levels. Although, our study achieved its goals, it would be good if the same research will be conducted on private schools in Bahrain. Furthermore, an important topic that should be studied is the use of logical connectors in students' speaking in formal contexts. Also, if there is a correlation between the use of connectors and speaking quality.

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APPENDICES

Appendix (A)

Pre-test

Name:

Class:

Group:

Time: one hour

Test 1

Write an argumentative essay of about 200-250 words on ONE of the following topics:

1. Buying mobile phones for children

OR

2. You are what you eat.

Appendix (B)

Pre-test

Name:

Class:

Group:

Time: 30 minutes

Test 2

A) Choose the correct connector for each sentence:

1..... the rain we didn't take our umbrellas.

- a. Although b. Despite c. However d. Even though

2. A holiday would be fun, ... the weather is bad.

- a. yet b. in spite of c. even if d. however

3..... he tried to make us smile, he wasn't able to.

- a. In spite of b. However c. Even though d. Moreover

4. Nowadays there are too many cars in the world.,
pollution is increasing.

- a. Moreover b. Therefore c. Furthermore d. Whereas

5. he arrived late for the exam, the teacher let him come
into the class.

- a. Although b. Even if c. However d. Moreover

6. We thought she was unfriendly, ... in fact she was just a bit shy.

a. whereas b. moreover c. in spite of d. despite

8. You need to study harder..... pass your exams.

a.in order that b. so that c.in order to/so as to d. Whereas

9. Cigarette advertising should be banned.....it encourages young people to smoke.

a. so that b. yet c. as d. Although

10. The shop was closed,..... I couldn't get any milk.

a. so b. because c.however d.even if

B) Fill in the gaps with the appropriate connectors from the box, and use capital letters where necessary.

However	in conclusion	as a result	on the other hand	consequently
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1. The experience of learning English

In my opinion, learning English is an exciting experience., your views on the world open up as you get to know a different culture., it may take you several years to be able to speak in the target language., some people may give it up., you can always visit England to try and learn it quicker., it is worth trying to learn a foreign language.

after that	eventually	first of all	then	Because
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2. Shark!

Jack and Ana went in a canoeing trip last summer., the bag with all their food fell out of Jack's canoe and into the water., Jack fell into the water..... he wanted to get the bag out., Anna tried to rescue Jack, but she fell in the water too., they both managed to swim to the shore and get out of the water.

Test 2 is taken from Pichastor, (2005)

Appendix (C)

Pre-test

Name:

Class:

Group:

Time: One Hour

Test 3

A. Read the text and answer the following questions:

The problems of metropolitan city

Metropolitan City is full of charm and scenic beauty, so visitors from around the world come to enjoy its famous theatres, museums countless ethnic restaurants, and scenic wonders. Although Metropolitan city seems like a paradise, it isn't, for the city has several serious problems: poor public transportation, congested streets, and expensive housing.

The first and most important problem is Metropolitan's inadequate public transportation system.. Thousands of residents rely on the city's buses and streetcars to travel throughout this large city, but Metro Transportation System's daily schedules are totally unreliable. A bus or streetcar that should arrive at 7:45 A.M may not arrive until eight o'clock or even later. Sometimes three buses or streetcars will arrive in bunches, one after another. Moreover, it is not unusual for a bus driver or a streetcar conductor to pass up groups of people anxiously waiting in the snow in freezing weather because he is behind schedule and wants to make up for lost time. Therefore, passengers become unhappy victims of

the waiting game. For example, once I waited so long in below zero weather that I caught a bad cold and ended up in bed for a week.

The second serious problem is the extremely congested condition of the city streets. There are simply too many cars everywhere. Apart from the traffic caused by city residents, many commuters drive on motorways and bridges leading into the city from the suburbs. This added traffic causes even greater traffic jams. To clear up the congested streets, city officials want city residents to leave their cars at home and use public transportation. However, their pleas have fallen on deaf ears because residents know that the city's public transportation is poor. Furthermore, suburbanites like the convenience of driving, which gives them the freedom to come and go as they please.

The final problem is the lack of reasonable housing in Metro city. This is a fascinating city that offers an exciting lifestyle for young, ambitious business and professional people. As a result, immigrants are attracted to this city because it offers many unskilled job opportunities. All of these would-be residents need affordable rentals like apartments, flats, and single-family houses. Unfortunately there is a shortage of affordable rental units, so people leave the city.

In conclusion, Metropolitan city must improve its public transit system, clear up the massive traffic jams caused by slow-moving traffic in downtown areas, and keep rentals down to affordable levels. In other words, Metropolitan city must improve its image or it will soon become just another average city due to the lack of administrative responsibility to solve these problems.

Adapted from Oshima and Hogue (1991)

1. Why do visitors come to Metropolitan city?

2. Is Metropolitan city considered as a paradise? Why?

3. Why do passengers in the bus need to wait for long time?

4. What is the reason behind the author's bad cold?

5. What is the importance of the incidents that the author waited in difficult weather conditions?

B. Read the text and answer the following questions:

The Need for advertising

Advertising is everywhere: on TV, on the radio, in magazines, on walls, on buses, on the Internet. It is a part of our daily lives, and sometimes we are not even aware of it. It may come into our lives without us noticing it. Could you imagine life without ads? Is advertising so necessary nowadays?

In my opinion, advertising is necessary nowadays and has a definite purpose. Firstly, it not only sells goods but also informs. Secondly, it introduces new products and, at the same time, reminds us of the ones

that already exist on the market. Advertising creates mass markets, so goods are cheaper. Therefore, one might say that it makes a positive contribution to our pockets. Looked at another way advertising is a source of income for TV companies, magazines and radio stations, which couldn't exist without the money brought in by sales of ads. We should also mention how useful classified ads are when you are looking for a job or flat.

On the other hand, we must take into account the opinion of those who say that advertising is a way of brainwashing. Advertising agencies shouldn't spend so much money on advertisements since in this way they would reduce the price of goods. Advertising agencies, however, produce more and more sophisticated ads every time in order to convince people to buy their products.

In conclusion, I personally think advertising may create a demand for material things we don't really need, and it imposes catch-phrases which invade our lives. It all boils down to this: think carefully before you buy something. Do you really need everything you buy?

1. What are the purposes of advertising?

2. Why do advertising create mass markets?

3. What is the result of cheap goods?

4. What are the advantages and disadvantages of advertising?

5. How do advertising agencies convince people to buy their products?

Appendix (D)

Post-test

Name:

Class:

Group:

Time: one hour

Test 1

Write an argumentative essay of about 200-250 words on ONE of the following topics:

- ### 3. Buying mobile phones for children

OR

4. You are what you eat.

[illegible]

Appendix (E)

Post-test

Name:

Class:

Group:

Time: 30 minutes

Test 2

A) Choose the correct connector for each sentence:

1..... the rain we didn't take our umbrellas.

- a. Although b. Despite c. However d. Even though

2. A holiday would be fun, ... the weather is bad.

- a. yet b. in spite of c. even if d. however

3..... he tried to make us smile, he wasn't able to.

- a. In spite of b. However c. Even though d. Moreover

4. Nowadays there are too many cars in the world., pollution is increasing.

- a. Moreover b. Therefore c. Furthermore d. Whereas

5. he arrived late for the exam, the teacher let him come into the class.

- a. Although b. Even if c. However d. Moreover

6. We thought she was unfriendly, ... in fact she was just a bit shy.

- a. whereas b. moreover c. in spite of d. despite

8. You need to study harder..... pass your exams.

a.in order that b. so that c.in order to/so as to d. Whereas

9. Cigarette advertising should be banned.....it encourages young people to smoke.

a. so that b. yet c. as d. Although

10. The shop was closed,..... I couldn't get any milk.

a. so b. because c.however d.even if

B) Fill in the gaps with the appropriate connectors from the box, and use capital letters where necessary.

However	in conclusion	as a result	on the other hand	consequently
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1. The experience of learning English

In my opinion, learning English is an exciting experience., your views on the world open up as you get to know a different culture., it may take you several years to be able to speak in the target language., some people may give it up., you can always visit England to try and learn it quicker., it is worth trying to learn a foreign language.

after that	eventually	first of all	then	Because
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2. Shark!

Jack and Ana went in a canoeing trip last summer., the bag with all their food fell out of Jack's canoe and into the water., Jack fell into the water..... he wanted to get the bag out., Anna tried to rescue Jack, but she fell in the water too., they both managed to swim to the shore and get out of the water.

Test 2 is taken from Pichastor, (2005)

Appendix (F)

Post-test

Name:

Class:

Group:

Time: One Hour

Test 3

A. Read the text and answer the following questions:

The problems of metropolitan city

Metropolitan City is full of charm and scenic beauty, so visitors from around the world come to enjoy its famous theatres, museums countless ethnic restaurants, and scenic wonders. Although Metropolitan city seems like a paradise, it isn't, for the city has several serious problems: poor public transportation, congested streets, and expensive housing.

The first and most important problem is Metropolitan's inadequate public transportation system.. Thousands of residents rely on the city's buses and streetcars to travel throughout this large city, but Metro Transportation System's daily schedules are totally unreliable. A bus or streetcar that should arrive at 7:45 A.M may not arrive until eight o'clock or even later. Sometimes three buses or streetcars will arrive in bunches, one after another. Moreover, it is not unusual for a bus driver or a streetcar conductor to pass up groups of people anxiously waiting in the snow in freezing weather because he is behind schedule and wants to make up for lost time. Therefore, passengers become unhappy victims of

the waiting game. For example, once I waited so long in below zero weather that I caught a bad cold and ended up in bed for a week.

The second serious problem is the extremely congested condition of the city streets. There are simply too many cars everywhere. Apart from the traffic caused by city residents, many commuters drive on motorways and bridges leading into the city from the suburbs. This added traffic causes even greater traffic jams. To clear up the congested streets, city officials want city residents to leave their cars at home and use public transportation. However, their pleas have fallen on deaf ears because residents know that the city's public transportation is poor. Furthermore, suburbanites like the convenience of driving, which gives them the freedom to come and go as they please.

The final problem is the lack of reasonable housing in Metro city. This is a fascinating city that offers an exciting lifestyle for young, ambitious business and professional people. As a result, immigrants are attracted to this city because it offers many unskilled job opportunities. All of these would-be residents need affordable rentals like apartments, flats, and single-family houses. Unfortunately there is a shortage of affordable rental units, so people leave the city.

In conclusion, Metropolitan city must improve its public transit system, clear up the massive traffic jams caused by slow-moving traffic in downtown areas, and keep rentals down to affordable levels. In other words, Metropolitan city must improve its image or it will soon become just another average city due to the lack of administrative responsibility to solve these problems.

Adapted from Oshima and Hogue (1991)

1. Why do visitors come to Metropolitan city?

2. Is Metropolitan city considered as a paradise? Why?

3. Why do passengers in the bus need to wait for long time?

4. What is the reason behind the author's bad cold?

5. What is the importance of the incidents that the author waited in difficult weather conditions?

B. Read the text and answer the following questions:

The Need for advertising

Advertising is everywhere: on TV, on the radio, in magazines, on walls, on buses, on the Internet. It is a part of our daily lives, and sometimes we are not even aware of it. It may come into our lives without us noticing it. Could you imagine life without ads? Is advertising so necessary nowadays?

In my opinion, advertising is necessary nowadays and has a definite purpose. Firstly, it not only sells goods but also informs. Secondly, it

introduces new products and, at the same time, reminds us of the ones that already exist on the market. Advertising creates mass markets, so goods are cheaper. Therefore, one might say that it makes a positive contribution to our pockets. Looked at another way advertising is a source of income for TV companies, magazines and radio stations, which couldn't exist without the money brought in by sales of ads. We should also mention how useful classified ads are when you are looking for a job or flat.

On the other hand, we must take into account the opinion of those who say that advertising is a way of brainwashing. Advertising agencies shouldn't spend so much money on advertisements since in this way they would reduce the price of goods. Advertising agencies, however, produce more and more sophisticated ads every time in order to convince people to buy their products.

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1. What are the purposes of advertising?

2. Why do advertising create mass markets?

3. What is the result of cheap goods?

4. What are the advantages and disadvantages of advertising?

5. How do advertising agencies convince people to buy their products?

المخلص

سعت هذه الدراسة إلى البحث عن أخطاء الطالبات في استخدام أدوات الوصل التي أجريت عبر 60 عينة متكونة من ثلاث اختبارات : القراءة و الاختيار المتعدد و الكتابة . تم تطبيقها على 60 طالبة في إحدى المدارس الحكومية الثانوية في مملكة البحرين.

بالإضافة إلى ذلك هدفت الدراسة إلى تحديد كيفية إدراك الطالبات لأدوات الوصل في المدارس الثانوية الحكومية في مملكة البحرين ، و أيضاً ركزت على محاولات استكشاف الصعوبات أو التحديات التي تواجهها الطالبات في الكتابة. سعت الدراسة إلى إجابة الأسئلة التالية:

1. ما هي أدوات الوصل الأكثر شيوعاً في الكتابة لدى الطالبات؟
 2. هل هناك استخدامات غير صحيحة لأدوات الوصل؟
 3. هل هناك علاقة بين أدوات الوصل وجودة الكتابة؟
 4. هل تفهم الطالبات وظائف أدوات الوصل؟
- تم تطبيق هذه الدراسة على عينة من الطالبات المتحدثات باللغة العربية و هن في صف ثالث المرحلة الثانوية . تم تقسيم الطالبات إلى مجموعة تجريبية ، حيث تم تدريسهن أدوات الوصل ، ومجموعة أخرى ضابطة لم يتم تدريسهن أدوات الوصل. ولتحقيق أهداف البحث تم تقديم اختبار قبلي واختبار بعدي لقياس مدى فعالية تدريس أدوات الوصل على الطالبات.

بينت نتائج هذه الدراسة أن الطالبات نادراً ما يستخدمون أدوات الوصل ولا يدركن وظائف هذه الأدوات. وأيضاً أوضحت نتائج الاختبارات مدى فعالية التدريس في زيادة استخدام أدوات الوصل بطريقة صحيحة و في تحسين مستوى الطالبات في الكتابة. بناء على نتائج البحث قدمت الدراسة بعض التوصيات لمعلمين و متعلمين اللغة الإنجليزية و لمنتجين الكتب الدراسية لهذه اللغة.