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**ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES**



**ON THE EFFECT OF MIND MAPPING ON READING COMPREHENSION
SKILLS OF IRAQI ESP LEARNERS**

THESIS

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DEDICATION

- To my loving parents for their endless supports.

- To my beloved sisters with love.

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ABBREVIATIONS

CON	: Control Group.
EAOP	: English for Academic and Occupational Purpose.
EAP	: English for Academic Purpose.
EBE	: English for Business and Economics.
EFL	: English as a Foreign Language.
EGAP	: English General Academic Purpose.
ELT	: English Language Teaching.
EGP	: English for General Purpose.
EOP	: English for Occupational Purpose.
EPU	: Erbil Polytechnic University.
ESAP	: English for Specific Academic Purpose.
ESP	: English for Specific Purpose.
ESS	: English for Social Science
EST	: English for Science and Technology.
EXP	: Experimental Group.
RC	: Reading Comprehension.
T1	: Pretest.
T2	: Posttest.
TEFL	: Teaching English as a Foreign Language.
TT	: Treatment.

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ANLAMA BECERİLERİ İRAK ESP ÖĞRENCİLERİN OKUMA ZİHİN HARİTALAMA ETKİSİ

ÖZET

Son 20 yıl içinde görsel oranizatörler(zihin haritalama)gibi kullanarak ingilizce öğrenim ve öğretim en geniş teknik alanlardan biri olmuştur . Çalışmada ingilizce okuma anlama öğretiminin teknik olarak zihin haritalama tekniği kullanmanın öğrenciler ESP etkisine odaklanmıştır. Katılımcılar 40 iraklı öğrenciden oluşmuş, Erbil teknik üniversitesi /Yonetim bölümünden rastgele olarak seçilmişler. İki farklı gruba bölünmüşler; zihin haritalama metodu kullananlara deneysel grupe denir, geleneksel okuma anlama öğretimin şekli ise kontrol grupe deniyordu. Her grup 20 kişiden oluşuyordu, ve onların yaşları 18-19 arasındaydı, 19 erkek ve 21 kadına bölünmüş. Araştırma başlangıcında okuma anlama kabiliyeti kıyaslamak için öntest yapılmış. Sonra, 12 haftaya işlem verilmişti, ondan sonra deneysel grupta olumayı anlama kabiliyeti öntest sonuçlara göre artmış olup olmadığını bilmek için bitirme testi yapılmıştır. Sonuçta, bulgular istatistiksel olarak deneysel ve kontrol grupları arasında bitirme testinde okuma anlama alanında anlamlı bir farklılık göstermişti. Böylece, zihin haritalama okuma anlama öğretiminde ESP için yararlı olduğu kanıtlanmıştır.

Anahtar kelimeler: *anlamlı öğrenme, zihin haritalama, okuduğunu anlama, ESP öğrenenler.*

ON THE EFFECT OF MIND MAPPING ON READING COMPREHENSION SKILLS OF IRAQI ESP LEARNERS

ABSTRACT

Over the last two decades using visual organizers such as mind mapping in teaching and learning English language has become one of the wide spread used techniques. The current study concentrated on the impact of using mind mapping as a meaningful learning technique in teaching reading comprehension among the ESP learners. The participants of the study consisted of forty Iraqi students at Erbil Polytechnic University who randomly selected in Technical College-Erbil /Department of Business Management. They were divided into two different groups; experimental group which taught by mind mapping and controlling group which exposed to the traditional methods of teaching reading comprehension, 20 students for each group. Their ages were ranged between (18-19) years. The participants are nineteen males and twenty-one females. At the beginning of the study they were given a pretest to measure their reading comprehension ability. Then, they were given the treatment for twelve weeks. After that, they were tested in the posttest to know whether the experimental groups' knowledge increased comparing to the pretest or not. Finally, the findings illustrated a statistically significance difference between experimental group and the controlling group in terms of posttest achievement in reading comprehension scores. Thus, the mind mapping proved to be beneficial in teaching reading comprehension.

Keywords: *meaningful learning, mind mapping, reading comprehension, ESP learners.*

1. INTRODUCTION

1.1 Theoretical Framework

English language has become one of the most crucial languages among the other languages in the world. Due to its importance, people try to learn English and to become aware of its vitality; Jeremy Harmer (1992) indicates that nowadays one of the most significant language over a wide area is English language. Therefore, in most of the nations, universities try to put English language in the process of learning and education, especially in ESP courses. Teaching English for specific purpose has grown up very quickly, especially in the area of teaching EFL.

In addition, the teachers have an important role to make the student understand the text, and offers them with the strategies of comprehending the text. Reading a text with a good understanding leads the student to become good readers. In the recent years many strategies have been used to facilitate reading for the students; graphic representations are the most effective and significant strategies among them, especially mind mapping (Indrayani, 2014; Treviño, 2015; Hazamy, 2007; Şahin, 2013; Jones, Ruff, Dee Snyder, Petrich and Koonce, 2012; Erfani, Iranmehr and Davari, 2011; Yi-Chun, and Yi-Ching, 2009), the results of their studies indicated that this technique is effective in deepening the students' performance in reading comprehension and advantageous to promote their reading ability. Tony Buzan (1991) introduced mind map, this technique used to create, visualize, arrange, and structure the ideas so as to aid human to remember, the mind map also includes charts and diagrams with pictures and keywords (Grabowik, Knosala, 2003).

The use of graphic representations to highlight text organization and to indicate the ordering of the content information is a significant resource for understanding instruction. Similarly, the teachers who try to model reading skills and strategies overtly, facilitate students' performance of these abilities in comprehending texts, are

encouraged in a number of comprehension-enhancing-approaches (Richards and Renandya, 2002).

Tarkashvand (2015) states that both male and female student in mind map group exhibited a great improvement in developing in the area of learning and developing vocabulary, more than those who were in the concept map group. On the other hand, there are many different attitudes toward mind map and the other teaching techniques, Treviño (2015) find that outlining technique is more effective than mind map, when he conducted his study among seventh-grade students of Life Science, as the students stated "(we enjoyed creating an (outline, mind map, writing information) for the cell block" (Treviño, ix). However, a great number of the researcher agree with that mind map is one of the effective visual technique to improve student's ability in most sectors of teaching English as a foreign language (Suryani, 2015; Al-Jarf, 2011; Suyanto, 2010; Saed, 2011).

Hibbing and Rankin-Erikson (2003) thinks that the use of visual representation in classroom enables students to improve not only understanding what they read, but also it enlarges their vocabulary. They assert that some student cannot create an image in their mind while reading. Thus, this causes a low ability to understand the texts, but over years of teaching them how to create a visual image in their mind, the students became more active and proficient in reading comprehension. Similarly, Gomez and King (2014) found out that utilizing mind mapping plays a great role in teaching vocabulary and make the students to be more active in classroom.

In the light of the above observation, the researcher has chosen a technique to conduct his study namely, mind mapping technique. The present study tries to explore the impact of using mind mapping technique on Iraqi ESP students' achievement in reading comprehension. Thus, the study seeks to identify the more effective technique between mind map and traditional technique. The reason beyond the choice of this technique is that these it has not been dealt with before, in respect to reading comprehension for ESP Iraqi college students. Therefore, there is a need to fill this gap.

1.2 Statement and Significant of the problem

Based on the above background, visual strategies have a great role in teaching English as a foreign language, especially in enlarging students' vocabulary and making them to be active in classroom activities (Hibbing and Rankin-Erikson, 2003; Tarkashvand, 2013). The reason of selecting this technique to conduct the study is the low level of Iraqi college students in reading comprehension as concluded from some researcher like, Ali (2005), and Al-Zubaidi (2004). In addition, there are some other reasons as indicated by Mahmoud (2008) such as, lack of extensive reading, inability to integrate information in a text with the existing knowledge, lack of flexible reading style, and relying on one traditional technique in teaching. So, to the best of the researcher's knowledge, there are few studies had been examining mind mapping technique in the universities of North of Iraq in the area of reading comprehension and in ESP courses.

Harmer (2007) states that among the four skills, listening, speaking, reading, and writing; reading plays a great role, because the learners in this process learn many things, and reading enlarges other subjects and skills. Reading is a process with purpose, a person may read as to gain information, verify existing knowledge, or criticize a writer's ideas or writing style. The main reason of reading is reading for comprehending and it cannot be separated from comprehension, when someone reads a text he/she must understand what the text is about, if he/she does not comprehend it he/she is not a reader (Doff, 1997). So, the students' awareness about the main idea of a written text need to be raised.

Therefore, the problem can be identified that is the learners face difficulty to get information from the written text, their achievement in reading comprehension is low and using traditional method to teach reading comprehension. Erbil Polytechnic University, like many other universities, offers English language course for all ESP colleges in the first level, but due to utilizing traditional technique, the students are unaware about the importance of the new teaching strategies.

Thus, the current study can be useful in encouraging the teachers to use mind map technique to teach in ESP courses to improve the students' reading comprehension. Furthermore, it helps ESP Iraqi college students to influence their level in reading comprehension, and help them to understand the written texts more easily. Also, the ESP learners will be introduced to a new strategy.

1.3 Purpose of the study

Currently, people's awareness has increased about the importance of English language, because people in their daily life face written texts in English language in school books, newspaper, article, and some other sorts of written texts, that is why understanding the written texts is more vital than the other skills (Suryani, 2015). Therefore, the students at ESP colleges need to learn and to be aware of the role of this technique. Mind map is one of the most widely used techniques to teach reading comprehension.

The purpose of the current study is to investigate the role of mind mapping technique on Iraq ESP college students' achievement in reading comprehension at Erbil Polytechnic University/ Technical College/ Department of Business Management, and to reveal whether mind mapping is effective to improve their reading comprehension or not.

1.4 Research Hypothesis

Creswell (2008) shows two types of hypothesis; first, null hypothesis (H_0) and second, alternative hypothesis (H_a) that designate as follow:

1- Null Hypothesis (H_0)

According to this type of hypothesis there is no difference between the participants' achievement scores, if the results reject the null hypothesis, the results would be positive and it means that there is effectiveness of using the mind map, in contrast, if the result accept the null hypothesis it means that there is no effect of mind mapping. The null hypothesis is formulated as follow;

“There is no statically significant differences between the experimental group achievement scores which is taught by mind mapping in reading comprehension, and that of the control group which is taught by traditional method in the post test”.

2- Alternative Hypothesis (H_a)

This type of hypothesis is contradictory to the null hypothesis; it states that there is difference between the participants' achievement scores. If the results reject the alternative hypothesis it means that there is no impact of using mind mapping, but contrary, if the results accept this hypothesis, it means that there

is effect of using mind mapping The alternative hypothesis is formulated as follow:

“There is statically significant differences between the experimental group achievement scores which is taught by mind mapping in reading comprehension, and that of the control group which is taught by traditional method in the post test”.

1.5 Definition of the Key Words

Meaningful Learning: it focuses on learning students with a meaningful approach of connecting new information to the prior existing knowledge. Meaningful learning is a significant kind of learning for classroom instructions, because it includes new concepts and relating them to what the students know, and enable the learners to keep this information in mind and put it to use again easily. (Adriana and Jeanneth, 2010)

Mind Mapping: mind mapping is a schematic device for representing a set of concept meanings embedded in a framework of proposition. After a learning task has been completed, mind map provides a schematic summary of has been learned. (Novak and Gowen, 1984).

English for Specific Purposes (ESP): ESP is a learner-centered approach to teach English as a foreign or a second language. It meets the need of mostly adult learners who need to learn English language for use in their specific field, such as science, technology, medicine, leisure and academic learning. (Yildiz, 2004)

Reading Comprehension Skills: reading comprehension skills is the interaction between the reader and the text, and the meaning is gained during premeditated thinking. (Harris and Hodges, 1995)

2. LITERATURE REVIEW

2.1 Introduction

The present chapter illustrates firstly, some information about David Ausubel assimilation theory and mind mapping technique. Secondly, it focuses on the advantages and steps of how to use this technique in teaching reading comprehension. In addition, some information about the ESP courses and its types will be explained. Furthermore, this chapter sheds a light on reading skills and reading comprehension. Finally, a number of the previous related studies will be shown and discussed.

2.2 David Ausubel's Meaningful Learning Theory

Meaningful learning theory is ascribed to David Ausubel. At the beginning the theory was introduced in 1962 under the title "A Subsumption Theory of Meaningful Learning and Retention", after that Ausubel published "The Psychology of Meaningful Verbal Learning". In 1968 he published his ideas more comprehensively in "Educational Psychology: A Cognitive View". (Novak, 1993)

The theory focuses on learning students with a meaningful way of relating new information to the prior existing knowledge. Meaningful learning is a significant kind of learning for classroom instructions, because it includes new concepts and relating them to what the students know, and enable the learners to keep this information in mind and put it to use again easily. Prior knowledge of the students is an important aspect in Ausubel's theory, because it leads the learners to have a good meaningful learning. Furthermore, the teachers must be aware of what the students already know so as to make the best use of it in their teaching practice. Ausubel also recommends using advance organizers as a technique to aid the learners to relate their existing knowledge to the new one. The advance organizer is a device or cognitive aid which is used to assist the students for retention of the new information; the most popular

formats of them are verbal phrases, hypermedia or graphics. (Adriana and Jeanneth, 2010).

In addition, David Ausubel's assimilation theory consists of some key principles, the researcher tries to shed a light on these key principles. First, principle of integrity; Ausubel makes comparison between human mind and a Chinese puzzle box in which the smaller boxes which include ideas and concepts are put into a larger place or box. Moreover, he investigates that the concepts are hierarchically arranged in connection with highly inclusive concepts under which integrate less inclusive sub concepts and informational data. Ausubel, (1960; 69), writes “knowledge represents an integrated system because ideas are connected together in a specific order; the human mind follows logical rules for organizing information into private categories”.

Second key principle is cognitive structure; Ausubel accentuates the importance of the learners' cognitive structure and he thinks that it plays a significant role in obtaining new information. He argues that the learning and retention of the new concepts can be facilitated by obvious and highly organized cognitive structure. On the other hand, puzzled and disorganized cognitive structure cause to prevent learning and retention of the new information. (Ausubel, 1968)

Third key principle is principle of hierarchy; Ausubel and Robinson (1969) suppose that learning is primarily comprised of hierarchical arrangement of knowledge and the fields of inquiry are structured like pyramids. They affirm that the new information is organized under higher level concepts already exist in the learner's hierarchical mind and the most comprehensive ideas those located at the top of the pyramid are the essential and most continuing elements in the hierarchy. Such elements have a longer life length in memory than do particular facts or specific details, which fall at the bottom of the pyramid.

Another principle which Ausubel's theory is built around is the concept of subsumption. Ausubel (1960) indicates that subsumption occurs when new idea goes into consciousness, it is treated and grouped under one or more of the concepts already existing in the students' cognitive structure. There are two types of subsumption, first, derivative subsumption; this kind takes place when new concepts or propositions are related to existing concept or proposition. Second, correlative subsumption makes the

meaning of the subsumer wider. As well, subsumption enables the learners to gather new information into their cognitive structure.

Ausubel also provides another key principle which is the principle of anchorage. Ausubel and Fitzgerald (1962) investigate that meaningful learning can be facilitated by anchoring, and it provides cognitive stability. Thus, meaningful learning can be continuing to use longer than rote learning, because meaningful learning is anchored while rote learning is not.

Ausubel, Novak and Hanesian (1978), argue that there is another key principle which has a great importance and part of the principles of the theory supports this principle; it is the principle of advance organizer. Organizers are abstract ideas shown in advance of the lesson. They represent a higher level of generality and comprehensiveness than the new material. They state that in short “the principal function of the advance organizers is to bridge the gap between what the learner already knows and what he needs to know before he can meaningfully learn the task at hand”. (Ausubel et al, 1978; 171).

Additionally, they indicate that the benefits of using organizers vary from good learners to slow learners, in which good learners benefit very little because they have clear and well organized cognitive structure. In contrast, slow learners benefit the most because they require additional assistance in learning how to structure their thinking.

Moreover, Ausubel (1968) focuses on another key principle; the principle of retention. He thinks that retention is firmly linked to subsumption and anchorage, also, learning and retention can be facilitated by them. He also mentions that the students who have well organized cognitive structure are able to remember information efficiently. In contrast, the students who lack of well-organized cognitive system unable to retain information, but they forget it rapidly. Ausubel also believes that there are three factors that influence retention; first, the availability in cognitive system of related subsuming concepts at a proper level of comprehensiveness. Second, the firmness and clearness of these concepts, and finally, the concept power of discrimination in the learning task.

The principle of forgetting is another key principle which is mentioned by Ausubel (1968). He illustrates the reason of forgetting, because forgetting occurs even if the students learned so hardly. He says that new information is stored when it becomes anchored to a larger subsuming concept. Reciprocally, this same information is

forgotten as it becomes progressively absorbed into its cognitive host. Also, he indicates that forgetting is complete when the new information is reduced to the least common denominator capable of representing it, namely, to the anchoring idea itself.

2.3 Meaningful Learning and Rote Learning

There is another important point in Ausubel's assimilation theory which is the distinction between meaningful learning and rote learning. To Ausubel, meaningful learning is analyzing the new knowledge, it occurs when the learners recognizes the interrelationship between two or more ideas, old and new. Furthermore, there are three advantages of meaningful learning over rote learning; first, when the learners acquire information meaningfully they can retain it for much longer time. Second, the learners can acquire new information which is related to their prior knowledge easily, because the knowledge is not memorized and the cognitive structure is clear. Third, the learners can apply what they have learned meaningfully in many different ways to resolve problems and contexts. (Adriana and Jeanneth, 2010).

Ausubel and Robinson (1969) assert that to achieve meaningful learning the teachers must present related materials in some sensible way to the students, that new knowledge must be fitted into a larger pattern. Also, the learners must possess relevant ideas to which the new idea can be related or anchored; the learner must have an appropriate subsuming concept in their cognitive structure. Additionally, the learner must actually attempt to relate new ideas to those which he presently possesses. If any of these conditions are missing, the end result will be rote learning.

On the other hand, rote learning takes place when the learners memorize new information in an arbitrary way and not relating it to their prior knowledge. The knowledge is stored in an isolated compartment and it is not integrated into the person's larger cognitive structure. In rote learning the learners forget information more easily because rote learning is not anchored to the existing concept. (Ausubel, 1968).

Furthermore, Adriana and Jeanneth (2010) illustrates that the students who learned knowledge by rote learning is forgotten within 5 to 10 weeks. Therefore, teachers identify that their students have lost what they learned earlier. Also, they indicate that the students who learned meaningfully capable of storing information for a long time because their brains store information which is related to other knowledge.

2.4 The Mind Map Technique

Tony Buzan (1991) indicates that the mind map is a diagram used to represent words, ideas, or other items linked to and organized fundamentally surrounding a central key word or idea. It is used to produce, envisage, structure and sort ideas, and as an aid in study, organization, problem solving and decision making.

In language teaching, another definition which is taken from English Works (1997) defines the mind mapping as a procedure of arranging a new and reorganizing significant concepts and information; from a written text, and changing it into drawing which accompanies an explanation by making it a diagram so as to aid the learners understanding, and recall the ideas easily to the mind.

Furthermore, McGriff (2000) reveals that the mind map is an outstanding process to organize information and to enable the students to understand the ideas in their classrooms. He believes that it is a crucial technique to support the students reading ability, because with this technique they can organize their ideas. In addition, the mind map technique is one of the most effective teaching tools to note taking, and improve the learner's creative problem solving. By using this technique, we can comprehend what is written in one's writing. It also leads the student to differentiate among the main and minor ideas, and simplifying it to remember what they have read very easily (Goodnough and Long, 2002).

Regarding to the origin of the mind map, it can be said that Instructors, engineers, psychologists, and many other people have been using mind maps for centuries in various areas, like learning, memory, and visual thinking. The early traces of this technique indicates that Porphyry of Tyros, who was a famous thinker improved and utilized mind maps for the first time, and developed many previous example of mind maps on one hand in 3rd century BC. On the other hand, Aristotle's ideas were envisaged in graphic form by him. Another person who used the structures of mind maps in the early times was a Catalan philosopher Ramon Llull. Later on, it was found that Leonardo da Vinci also utilized the technique, especially for note taking (Williams, 2000).

As a theory the semantic network was improved to comprehend human learning, then the famous investigator M. Ross Quillian and Dr. Allan Collins developed it into mind maps throughout 1960s. So, Dr. Collins could be regarded as the father of current

mapping, because he published research, and his important works with learning, innovativeness, pictorial thinking (Ibid, 2000).

In the late 1960s, the concept of mind maps was become popular by Tony Buzan who is a British psychologist. Many important regulations were offered by Tony Buzan to create an effective mind map. In addition, he claimed that the ideas were inspired "by Alfred Korzybski's general semantics, as popularized in science fiction novels, such as those of Robert A. Heinlein and A.E. Van Vogt" (Farrand, Hussain and Hennessy, 2002, p. 426).

After its development, mind maps were used in different fields more widely rather than before, especially in universities, schools and engineering. In comparison to the previous sorts, the mind map became simpler and having one central key word, but its structure remained the same (Ibid, 2002). Moreover, mind map can be made very easily in several ways, Tony Buzan (1991) recommends using these steps to make mind map:

1. Begin in the middle of a paper by putting the image of the central topic, and use no less than three colors.
2. During making your mind map use and take advantage of image, codes, symbols and dimensions.
3. Choose keywords and print, also it better to use capital and small letters.
4. Every word/image must be written separately and putting on its own.
5. The lines which are start from the central image must be connected properly. It is necessary to the central lines to be thick, organic and flowing, becoming thinner as they radiate from the center.
6. The lines should be similar in length.
7. At the time of making you mind map, it is important to use colors and your own codes.
8. Developing your own personal style of mind map.
9. Emphasis must be use in your mind map, at the same time show association.
10. Keep your mind map obvious by utilizing radial hierarchy, numerical order or outlines to embrace you branches.

Furthermore, there are some other specialists who offer the guidelines to make mind map, for example, Rose and Nicholl (2002) instruct those who want make mind map to follow these steps:

1. Write the topic of your subject in the middle of a paper.
2. Keywords must be used.
3. The branches must be radiate from the central topic.
4. Do not forget to use symbols, images, and words.
5. Draw it attractively as possible as you can.
6. Use colors as much as possible.
7. Try to repeat it more than two times until you get a perfect one.
8. Draw your mind map by yourself.

However, the experts who shed a light on the steps of making an effective mind map are nearly similar to Tony Buzan's guideline with a small difference. For example, DePotter and Hernacki (2004) suggest almost the same steps, but the difference is that to be creative in making mind map, draw a circle around the central topic and make the paper horizontally so as to get wider space.

Mind maps can be used in various areas like, education, business, engineering...etc. The students can take advantages of using mind mapping in education for summarizing text, organizing ideas and solving complex thoughts (Novak, 1993). Stine (1997) thinks that mind maps beneficial as follow:

1. Mind maps clarify ideas and information.
2. It plays a significant role in activating both hemispheres of the brain.
3. It is advantageous to understand the written texts by focusing on the central idea and connecting the lines to each other.
4. Discovering new ideas throughout making mind maps.
5. It helps you to remember the ideas and information easily.

Furthermore, Tony Buzan and Barry Buzan (2000) reveal some other benefits of mind map as follow:

1. You can save time by using mind maps, by 50 to 95 per cent.
2. Careful attention goes to the enhanced issue.
3. You can easily recognize the fundamental key words.
4. Creativity and remembrance will be improved.

5. You can make association between the fundamental key words clearly.
6. It is easier to the brain to recall the visualized and colorful information rather than the traditional techniques.
7. It is continuously providing and flow of thoughts.
8. The mind maps work in harmony with the brain's natural desire for completion and wholeness.
9. The brain turns to be alerted and accepting.

There are some types of mind map, five sorts of mind mapping were shown by Lenski, Wham and Johns (1999) as follow:

1. Enumeration (Description)

This type motivates the student to identify the main idea and write any possible definitions, related terms or examples, and then relate them to the central idea, for example:

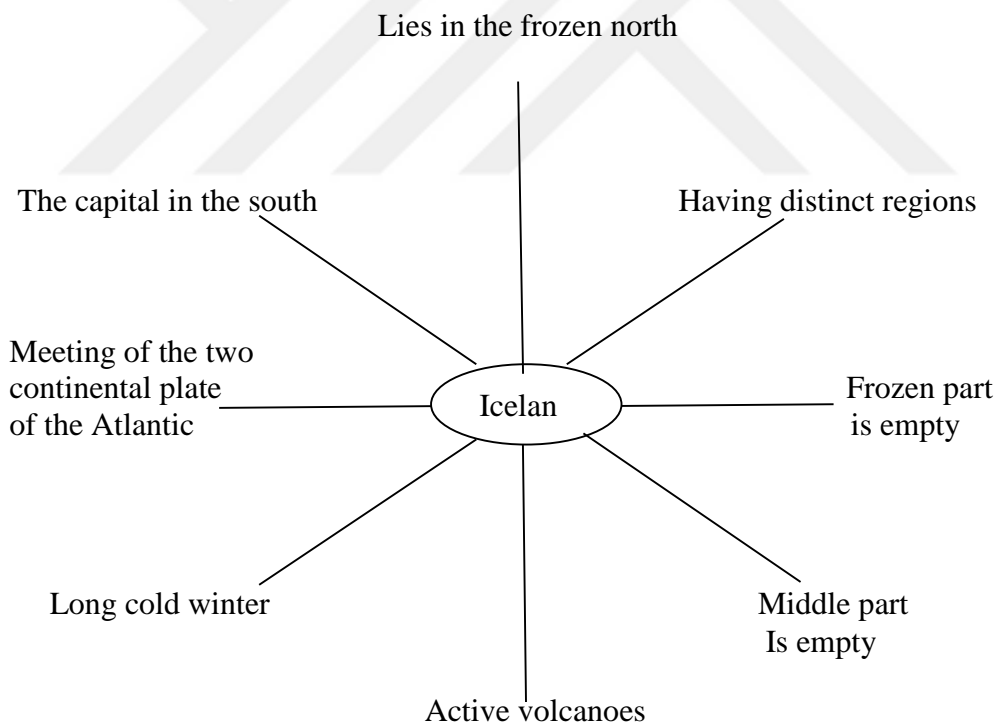


Figure 2.1: Enumeration Mind Map

Lenski, et al (1999, p. 77)

2. Time Order (Sequence) Mind Map

Time order aids the students to list the logical progression of the ideas in a written text by sequence one by one from the most important idea to the least important, from the earliest to the latest... etc., and then place specific items or details, for example:

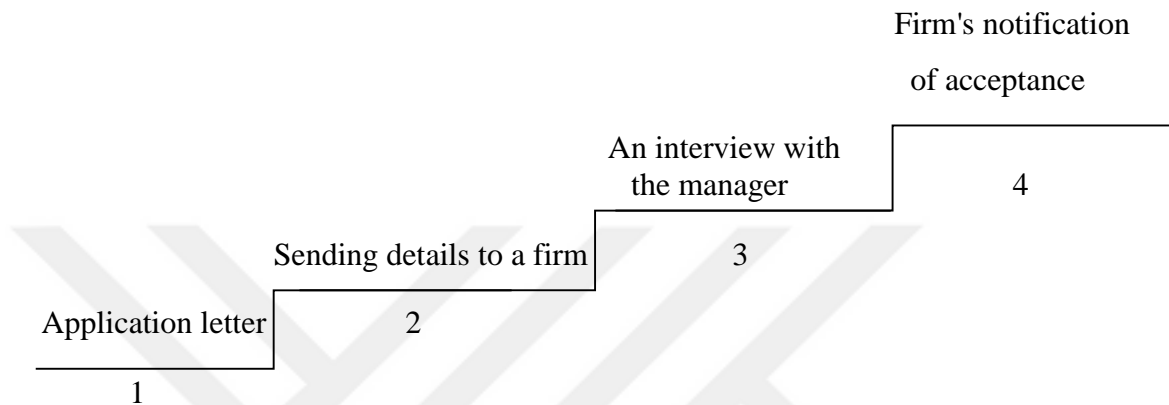


Figure 2.2: Time Order Mind Map

Lenski, et al (1999, p. 77)

3. Comparison and Contrast Mind Map

This kind of word picture helps the students to organize whether two related concepts are different and alike, and then chart the similarities on the right and left side of the map and differences in center, for example:

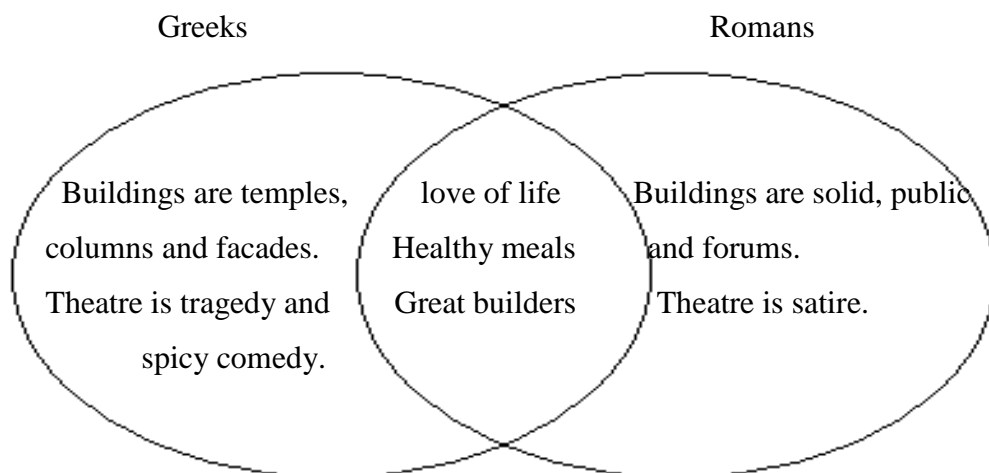


Figure 2.3: Comparison and Contrast Mind Map

Lenski, et al (1999, p. 77)

4. Cause and Effect Mind Map

Cause and effect word picture helps the students to identify create a chart of cause and effect leading to a condition, and identify the relationships between the events, for example:

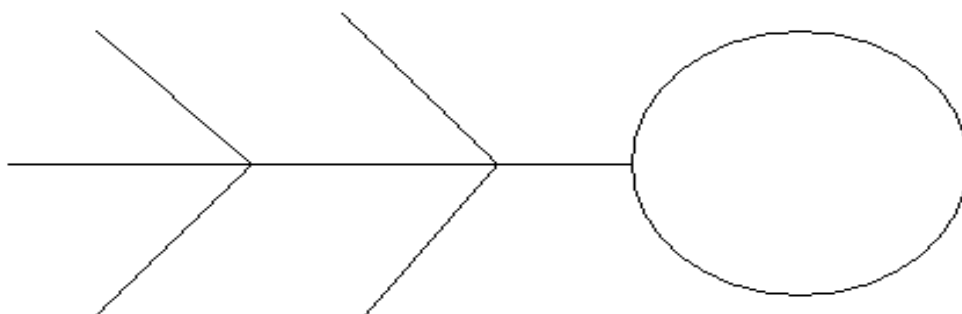


Figure 2.4: Cause and Effect Mind Map

Lenski, et al (1999, p. 78)

5. Problem and Solution Mind Map

Problem and solution mind map enables the students to analyze and examine possible solutions to problems, they can do it by making a list of the problems and another one for the solutions. For example:

<u>Problem</u>	→	<u>Solution</u>
Lack of creativity		familiarity with typography
In a designer's work		and painting techniques
_____		_____
The designer's little		Specialization in different areas
experience		as T.V and packaging

Figure 2.5: Problem and Solution Mind Map

Lenski, et al (1999, p. 78)

2.5 English for Specific Purpose (ESP)

The term ESP has been defined by many scholars and researchers of English language, in this regard some of them will be mentioned so as to understand the meaning of English for specific purpose. The term ESP means that kind of language learning

which is basically focuses on that part of language which related to a specific field. This means that, it is teaching English language for specific branch having its specialized educational purposes (Wright, 1992).

Furthermore, ESP defined to

... Meet the specific needs of the learners; ESP makes use of methodology and the activities of the discipline it serves by focusing on the language appropriate to these activities. As a specific approach to language teaching, ESP requires that all decisions as to content and method be based on the learner's reason for learning.

(Hutchinson and Waters, 1987, p. 19)

Similarly, Robinson (1980) defines ESP as the way of teaching English with some specialized aims and goals, for example, professional, science, academic etc. In addition, Kennedy and Bolitho (1984) indicates that ESP in Applied Linguistics is correspondingly new method which offers a new learner-centered approach in teaching English language; mainly it concentrates upon the learners need in their field and specialty. It can be said that, ESP depends on 'an investigation of the purpose of the learner and the set of communicative needs arising from these purposes'.

There is not an exact period of the emergence of ESP courses, so that most of the researchers and linguists are not agree with each other about the historical process of growing ESP. However, some researchers have been trying to indicate historical growth and emergence of ESP. Those researchers can be divided into two groups. The first group of the researchers believes that the origin of ESP courses started before the 1960s, in contrast to the other group (Tikoo, 1976; Romo, 2006). The second group thinks that the trace of ESP goes back to 1960s (Dudley Evans and St. John, 1998; Anthony, 1997; Gatehouse, 2001). Dudley Evans et al. (1998, p. 19) indicate that, "It was undoubtedly in the mid- to the late 1960s, however, that various influences came together to generate the need and enthusiasm for developing ESP as a discipline".

Furthermore, when we talk about ESP courses and its appearance, we have to mention the factors that cause ESP growth. Thus, Dudley Evans et al (1998) mention that among the fundamental reasons that played a significant role in appearance of ESP, the most crucial ones are; development of science, technology and business. Furthermore, they add that a great number of students came to United State, United Kingdom and Australia. In order that, teaching English for the different fields entered

a new period, and English language became the international language of science, business and technology.

Additionally, Hutchinson et al (1987), describe three common reasons as the essential factors of ESP appearance, the reasons are; demand of the new world, revolution in linguistics and focus on the learner. In addition, according to Hutchinson et al (1987), there are two historical events that cause the rapid growth of ESP. First, the end of the Second World War, and they add that:

the end of the war started an age of enormous and unprecedented expansion in scientific, technical and economic activity on an international scale for various reasons; most notably the economic power of the United States in the post-war world, the role fell to English.

(Hutchinson and Waters, 1987, p. 6)

The second one was the Oil crises of 1970s, and a new period of ELT begun in the oil rich countries, because their doors were opened to the Western knowledge. So, English language became the language of the new knowledge.

In addition, a revolution in linguistics is another reason which played a significant role in appearance of ESP. The linguists started to focus on the using language in actual communication. So that, an important finding was shown in the method that spoken and written language differ. While, the traditional linguists started to depict the features of language. Hence in the early 1970s some pioneers tried to depict English for Science and Technology (EST), they were Hutchinson and Waters (1987), Swales (1980), and Selinker, Tarone and Hanzeli (1981).

Finally, the psychology of the learners is another factor that developed ESP. More concentration was given to the methods that how language is acquired. Furthermore, the learners employed new and different strategies and skills. In this way, the teachers focused on what the learners need. Thus it can be said that ESP is not a product of language analyses, it should be considered as an approach to meet the learners need (Hutchinson et al, 1987).

Moreover, there are some researchers and specialists who have talked about the kinds of ESP, a great number of them have divided ESP under two main types, English for Academic Purpose (EAP) and English for Occupational Purpose (EOP) (Hutchinson and Waters, 1987; Robinson, 1991). EAP defined by Hyland (2008) as a kind of ESP

with the goal of helping students' study, it can be distinguished from EOP by its learners' type, also it is subdivided into English for General Academic Purpose (EGAP) and English for Specific Academic Purpose (ESAP). In addition, Kennedy et al (1984) define EOP as teaching English language in occupational framework. The learners' occupational needs are taught before, mid or after their work as pre, simultaneous or post experience.

Three types of ESP have been shown by Carter (1983) which are; English as a Restricted Language, English for Academic and Occupational Purpose (EAOP) and English with Specific Topic. He states that the first type is very restricted which enables the students to learn language for very much limited purpose, it instructs them to handle special conditions in very restricted linguistics setting. Also, this type of ESP limits itself in using the number of phrases and experiences, which the learners cannot speak in any other situations except what they have been trained for.

The second type which is identified by Carter (1983) is English for Academic and Occupational Purpose (EAOP), but Robinson (1991) recognizes two kinds of ESP in his classification English for Academic purpose (EAP) and English for Occupational Purpose (EOP). Third type is English with Specific Topic, this type of ESP is uniquely concerned with anticipated future English needs of, for example, scientists requiring English for postgraduate reading studies, attending conferences or working in foreign institutions.

In addition, Kennedy and Bolitho (1984) add another type in their classification which is English for Science and Technology (EST). Hutchinson and Waters (1987, p. 17) in their 'tree of ELT' classify ESP as follow:

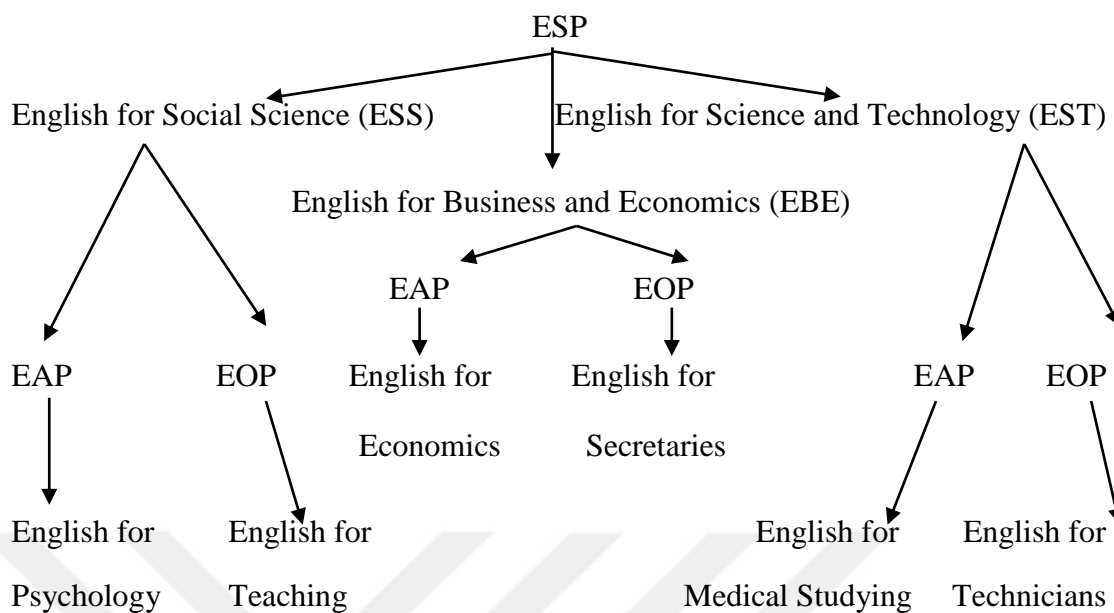


Figure 2.6: Hutchinson and Waters' Classification of ESP.

Regarding to the characteristics that differs ESP from EGP, Carter (1983) proposed three characteristics of ESP which are; authentic materials, purpose-related orientation and self-direction. These characteristics have been supported by some experts and researchers (Stevens, 1998; Bojovic, 2006; Gatehouse, 2001; Dudley Evans, 1997).

Dudley Evans (1997) asserts that intermediate and advance levels are suitable levels for ESP courses to be offered, and if his claim is accepted, then the feasibility of using authentic materials would be maintained. In addition, Gatehouse (2001) investigates that authentic materials can be used as modified or unmodified in form, because it is a fundamental characteristic of ESP, especially in self-directed study and research tasks.

Moreover, the second characteristic of ESP courses is purpose related orientation. ESP is a course with purpose, the main purpose of these courses is to help the students so as to be communicatively prepared in their target situation. For example, the tasks like preparing papers, note making and oral presentation etc. (Carter, 1983). Hence, Gatehouse (2001) shows an example at Algonquin College where the students were practiced to make and prepare unique business ventures such as market research, logo creation and pamphlets. Then, the students' final products were shown in the form of poster presentation sessions.

The final characteristic of ESP courses is self-directed. Carter (1983) indicates that it is turning the learners into users, which means that ESP courses are related to the

students' needs. He also adds that in order to self-direction take place, the students must be given more freedom to make decision about how, when and what to study. Finally, Robinson (1991) argues that there are two other criteria; first, she thinks that ESP courses are goal-directed. This means that the students in ESP courses have a clear goal in learning language. Second, (Robinson, 1991) acknowledges that the ESP courses are needs-driven, so that she investigates an ESP courses is based on need analysis which aims at specify as closely as possible what exactly it is that students have to do through the medium of English.

2.6 Reading vs. Reading Comprehension

Among the four skills reading is an important one for the students to learn. When the students learn to read they can get information from the written texts, and also it plays a crucial role in language acquisition. Furthermore, when they engage in reading the texts the vocabulary knowledge will be mastered. Besides, reading activity affect spelling and writing performance (Harmer, 2007).

In addition, reading has been defined by some specialists and researchers, the researcher tries to shed a light on some them. Silberstein (1994) defines reading as an active process which aids the students to make meaningful discourse. Beatrice (2008) defines reading as a process in which the reader thinks consciously and unconsciously, and various strategies are used to get the meaning that the writer presume, this can be done by making comparison between the reader's background knowledge and the information in the text. According to River's (1981) definition reading is a method to merge and extend one's information of language. He adds that in the process of reading the reader obtain information and pleasure.

Moreover, psychologist Smith (2004) defines reading by making similarities between reading and infants so as to easily understand the definition of the reading. He writes that when the infants born they try to make sense of everything around them. Then, he asks how do they try to make sense of things that they face? He replies 'by reading it and trying to discourse its meaning'. Also, the psychologist adds that reading is the most natural activity in the world.

Finally, there are three contradictory definitions of reading which have been identified by Weaver (2002). According to the first definition, learning to read means learning

to pronounce words, this means that phonemic awareness is an important aspect in influencing reading ability. While, the second definition shows that learning to read means to identify words and get their meaning, which means that phonics instruction is also significant to develop reading ability. The third definition is learning to read means to learning to bring meaning to a text in order to get meaning from it.

In addition, before defining reading comprehension, it is necessary to know the meaning of comprehension. Human beings always try to understand things around them, because everything that surrounds them has meaning. In this regard, Anderson (1995) analyzes comprehension into three levels; perception, parsing and utilization. In the first stage, the talk or print message encodes. Then, in the second stage, the reader changes what is being encoded into a mental map for all acquired messages. In the third stage, all gained knowledge is used in comprehending other things.

Furthermore, Richards and Schmidt (2002) define comprehension as the process of recognizing the meanings in either written or spoken messages. They argue that the modern theories assert that comprehension is an active process drawing both on information comprised in the communication (bottom-up processing), and also background knowledge (top-down processing). David Crystal (2008) investigates that the term comprehension in linguistics refers to the capability of a person to grasp the meaning of either talk or print language, and it is in contrast with production.

After explaining the meaning of comprehension, it is time to define and shed a light on reading comprehension. In addition, Mayer (2003) defines it as technical skills which help the students to take advantage of the texts.

Moreover, Ur (1996) argues that the central feature of reading comprehension is understanding what the writer says, because when a reader is unsuccessful to understand the text, it means that he is not reading. Also, he reports that every text includes an encoded message by the writer, the message directs to the reader, if the reader unable to understand the encoded message, it does not make any sense.

Additionally, Richards and Schmidt (2002) shows that there are four types of reading comprehension, which can be differentiated based on the reader's intention. The first one is literal comprehension; this type helps the students to comprehend, recall to the mind and remember the knowledge that clearly included in a paragraph. Second, inferential comprehension which is used to discover unclear information in a written

text, and the reader must use his own experience to do so. Third type of reading comprehension is evaluative comprehension; this type can be used to make comparison between the reader's knowledge and information in the text. Finally, the fourth type is appreciative comprehension; the aim of this type is to acquire emotional or other kinds of valued response from a passage.

Thus, based on the previous mentioned explanation of reading comprehension, it can be said that it plays a vital role in learning process, because when the readers understand what they read, it will be more feasible. Also, it can be said that reading comprehension is the process of understanding the meaning and attaining information of the written language. Reading is a purposeful process, when people read a written text they have purposes in their mind. If a person reads without having a purpose, it does not make sense to read. So, some experts have indicated the purposes of reading, mainly they focus on two common reasons which are reading to get information and reading for pleasure. Furthermore, Mc Donough and Shaw (2013) show some goals for reading as follow:

- 1- People read to get information or because of their desire to know about the topic.
- 2- To achieve instructions about performing task for work or doing some tasks in their daily life.
- 3- To stay in contact with friends by correspondence or to comprehend business letters.
- 4- To be aware of when or where something happens or what is available.
- 5- To be aware of what is going on in their daily life, for example reading newspapers and magazines.
- 6- For pleasure and entertainment.

In addition, Grabe and Stoller (2011) are other experts who investigated the purposes of reading; they think that the reasons of reading are:

- 1- Reading for simple information and skim quickly.
- 2- Some people read written texts to learn.
- 3- Reading to merge information, write and criticize written texts.
- 4- Reading for general comprehension.

Therefore, having purpose in mind to read materials leads the students to be more concentrated upon what they read, and easily get their aims of reading. Doff (1997) argues that people read for particular purposes, they want to discover something, to clarify or check information etc. the difference in people's background, experience and opinions make their aims of reading different. Furthermore, Grellet (1996) divides purposes of reading into two fundamental kinds. First, reading for pleasure; he thinks that people read poem, novel, story etc, because they think that these books are pleasurable. That is why, when they get pleasure from a book or written texts they read more, which cause them to comprehend better and developing vocabulary. Second, reading for information; he states that people also read to get information, because the written language is more effective than the other media to maintain information. Similarly, Nuttal (1996) thinks that one of the main reasons of reading is read to get information, and describes newspapers and magazines as the main source of information in the new world.

2.7 Factors Affecting Reading Comprehension

There are some factors that affect reading comprehension and facilitate the meaning of the text for the readers. However, there are a great number of the factors that influence reading comprehension; the current study will shed a light on some important of them which are vocabulary knowledge, text type, coherence and cohesion, automaticity, syntax, reader's language proficiency and culture.

2.7.1 Vocabulary Knowledge

One of the main and significant reasons which influence reading comprehension is vocabulary knowledge. Over the last decades many studies by different researchers indicate that vocabulary is a fundamental aspect to reading comprehension (Zhang and Annual, 2008; Chang and Gould, 2008; Nagy, 1988; Alderson, 2000; Joshi, 2005). Nagy (1988) states that the students are unable to comprehend what they read with lack of vocabulary knowledge, and at least they must understand the meaning of the majority of the words.

Also, he argues that the poor level of vocabulary knowledge is the real problem which many students face at the time of reading, and this obstacle may put them educationally at risk. Furthermore, he thinks that if the students taught simply with effective

vocabulary instruction by the teachers, they would comprehend better, because there are some vocabulary instructions which are unsuccessful to affect the students' vocabulary knowledge. While, many students use dictionary definitions to grasp the meaning of the particular words, they may success or confuse, because mostly the dictionary definitions are hidden and unclear to get the exact meaning of the words (Alderson, 2000).

2.7.2 Text Type

Text type is another factor that affects reading comprehension, its effect changes according to its characteristics and structure (Horiba, 2000; Carrel and Connor, 1991). Davies (1995) writes that a text under its rhetorical function could be persuasive, descriptive, expository etc. Moreover, he argues that there are some other rhetorical functions of the text type which are lower-level than the previous mentioned functions; they are comparison-contrast, cause-effect, problem-solution etc. Hence, each one of them portrays a specific way of evolvment, and a particular series of the author's idea. So, it is important for the reader to know about these kinds of the text so as to success fully and pursue the writer's thoughts.

Generally, text type can be grouped into two big divisions; namely, narrative and expository, it is crucial to be aware of the different characteristics of both types. Narrative text commonly relates to a story, myth, legend, fable etc. In narrative texts, there is opening, heart of events and closing unites. Furthermore, narrative text mainly focuses on some main components which are character, setting, theme, conflict, and series of events and solution of the conflict (Comprehension Instruction, 2002). Rumelhart (1980) calls these characteristics as 'story grammar', and he investigates that they are beneficial for the readers to comprehend what they read, because these characteristics help them to get inside the text, meet the characters, pursue the series of the events and finally be aware of the conflict and solution.

Regarding to the expository text, the writer's purpose usually is to show and explore information, and mostly it is related to history and science. The expository text includes hard vocabulary, and sometimes domain particular or technical items. Therefore, it can be said that this type is the most difficult one to deal with and comprehend. So, it is important for the readers while reading an expository text to prepare themselves to face information statics, graphs, numbers etc. (Alderson, 2000).

2.7.3 Coherence and Cohesion

It is clear that reading a text having coherence and cohesion easier to understand than one without having these two aspects. Coherence is the connection between the sentences or paragraphs of a text. Coherence is that the sentences in a paragraph are linked or joined to each other like a set of ideas; this continuity aids the readers to understand and move from one idea to another one simply without any difficulty. Therefore, when a person reads a text without coherence the reader cannot pursue the author's idea, so that the reader needs to read the text more than twice to base connections, obviously this makes the reading the text boring (Trimmer, 1995).

Additionally, along with coherence also cohesion influences reading comprehension. Davies (1995) define it as the different existing possibilities of relating sentences' words to produce comprehensible structures which is well linked and well connected. Therefore, reading a text without having cohesion cause difficulty in reading, remove connection between words and the reader mix the ideas which cannot see what refers to what. Moreover, he argues that coherence and cohesion are connected to each other, in which a text without cohesion would not be coherent. Yun (1993) explores that cohesion promote reading and lessen confusion, it helps the readers to depend on the content and predicting the meanings of the words.

2.7.4 Automaticity

Automaticity is an accurate identification of the words effortlessly; it is an important aspect of the fluent readers (Harris and Hodge, 1995). Hawkins (1991) indicates that the development of automaticity affects and influences understanding; there would be more 'freed-up' processing ability for understanding as decoding skills become automatic. Similarly, if the reader is fluent in words recognition, his consideration will be concentrated on processing meaning in place of wasting time on the decoding process.

2.7.5 Syntax

Sometimes readers face difficulty in reading due to the lack of syntax knowledge, because it is a significant factor which affects understanding written language (Vogel, 1975; Anderson, 1982). The reader must be aware of the different types of sentences structure, because there are various kinds of sentence structure; simple, complex,

compound and compound complex. Furthermore, there are many other sources of syntactic problems while reading, for instance, long phrases, types of words, complicated sentences and very long sentences also another reason of making problem in understanding. The readers who are not familiar with syntactic knowledge, they will undoubtedly face difficulty in understanding (Erikson, 2003).

2.7.6 Reader's Language Proficiency

Language proficiency in foreign language is an important reason to understand the texts. There is a strong relationship between reader's proficiency in linguistics ingredient and the level of the reader's understanding. Therefore, if a reader dominates a wide extent of vocabulary knowledge, aware of the different cohesive device and well skilled in sentences structure, he would not face any problem in reading and understanding the texts (Albioid, 2007). Furthermore, Spies (2011) argues that the reader firstly must care of linguistics input shown in the text which is function as stimulus and help the readers to comprehend. So, if he cannot get what is exhibited on the page, he would fail to predict and anticipate. Thus, lack of language proficiency prevent reading comprehension.

2.7.7 Culture

Culture also plays a significant role in a foreign language learners' reading comprehension. Some studies indicate that reading aids foreign language learners to confront and grasp the target culture (Lamioid, 2007; Alptekin, 2006). Additionally, Steffensen, Joag-Dev and Anderson (1979) investigate that student' cultural familiarity help students to make better interpretation of the written texts, in contrast their unfamiliarity leads them to pertain to their own cultural norms, and this cause in poor comprehension.

Furthermore, Alptekin (2006) show that if the cultural components of a short story are more familiar for the students, they would make better inference than reading the original but culturally-remote, and this finding supports Oller's (1995) statement that replacing some words in the text with mere familiar ones supports the learners to obtain better understanding.

2.8 Previous Related Studies

Many studies tried and conducted to explore to investigate the effectiveness of mind mapping on improving students' learning skills in general and in all fields of knowledge. Some of the studies focused on the effectiveness of mind mapping on students' achievement in reading comprehension, while some others tried to shed a light on the impact of this technique on the other skills. So it is important to review some of the previous related.

1- Ahmad (2001)

This study is an example of the previous studies which attempted to investigate the effect of brainstorming on teaching reading comprehension in English to university students.

The aim of his study was to investigate the effect of brainstorming on teaching reading comprehension on developing second stage students of the English department, College of Languages, University of Baghdad during academic year (1999-2000). A sample of (80) were chosen randomly and then divided into two equal groups; experimental group (20) students which is taught by brainstorming technic, and control group (20) students which is taught by traditional technique. The results explore that there is a significant difference in the mean scores of the students' achievement in EFL reading comprehension between the experimental and the control group. This difference is in favor of the experimental subjects. Furthermore, it revealed that there is a significant difference in the experimental group at the literal and inferential levels of EFL reading comprehension. The difference is in favor of the inferential level.

2- Ali (2005)

He also conducted his study to investigate the impact of semantic map on improving college students' achievement in reading comprehension. The study was conducted at College of Education/Ibn Rushd/University of Baghdad during second semester of the academic year (2003-2004). A sample of (80) second stage students has been chosen randomly and distributed into two groups; experimental group (20) students, and control group (20) students. The results indicated that there are statically significance differences between the experimental group which has been exposed to the semantic map technic, and the control group which has not been exposed to the same suggested

technic in reading comprehension, and in favor of the experimental group. So, the semantic map technique was being proved to be beneficial teaching technique.

3- Lee (2010)

In this study the researcher tried to show the impact of mind mapping as a pre-writing strategy to improve EFL college students' writing skill at Syracuse University. The study assumed that using mind mapping as a pre-writing strategy, can reduce cognitive demands for EFL writers. The aim of his study was that collaborative mind map task would engage language learners in communicative interaction to promote their writing. The participants of the study were 143 college students who graduated in from Korean language courses in a state university in United States of America. There were three different proficiency level classes (beginner, intermediate and advance) represented in both experimental and controlling groups. The researcher collected the data during three sessions; first, pre-test of writing, second, individual planning and collaborative planning. The treatment groups were encouraged to develop concept maps to plan their composition in the second and third writing session. The mean and standard deviation variance were used as the statistic tools.

The results illustrated that the experimental groups who used mind mapping got higher marks than those of controlling group on a composition profile at both sessions. The findings of the participants' perception about using mind mapping as a pre-writing strategy showed that the majority of them were satisfied with collaborative mind map activities for writing. Thus, the study proved that using mind mapping as a pre-writing strategy is beneficial to improve EFL learners' writing skill.

4- Al-Bazaaz (2003)

In contrast, Al-Bazaaz investigated the effectiveness of using vee diagram and concept map through the frame of cooperative learning on the development of scientific thinking and providing scientific concepts in the practical subject of insect. A sample of (30) male/female third stage students has been chosen randomly from Department of Biology/College of Education/University of Mosul. The sample of the study has been divided into three groups, two experimental groups and one control group, each group consisted of (10) students. The researcher taught the first experimental group by using vee diagram, the second experimental group by using concept map, and the control group was exposed to the traditional approach. At the end of his study the

results indicated that first, there was an existed statistical difference between the first experimental group and the control group in the variable of the scientific thinking. Second, there was no existed statistical difference between the second experimental group and the control group in the variable of the scientific thinking. Third, there was an existed difference between the first experimental group and the control group in the variable of teaching the scientific concepts of the practical subject of insects.

5- Hazim (2001)

In this study the researcher aimed at investigating the effect of using two modes of presenting concept map on the achievements and acquisition of laboratory skills in organic chemistry. The study was conducted at Department of Chemistry/College of Education/University of Mosul. A sample of (41) second stage male/female students were participated which has been chosen randomly. The students were divided into three groups; two experimental groups and a control group, each of the experimental groups consisted of (14) students and the control group (13) students. The experimental groups were taught by using concept maps while the controlling group exposed to the traditional method. The results revealed that there was statistical significant difference between the three groups in achievements for the sake of the experimental groups which taught by concept maps.

6- Suryani (2015)

This study tried to explore the role of mind map to improve the students reading skill. It was carried out at SMA N 1 Kretek located at Kretek, Bantul during academic year 2013/2014. The participants of the study were (25) second year students. The researcher used classroom observation and interview as the data collection tools and the data were analyzed qualitatively. The interview had been done at the beginning of the study and then the researcher observed the class until the end of the study. The findings illustrated that the students' reading skill were developed, after introducing mind map to the students, it was revealed that they can find a suitable topic for the texts, paraphrase and improved their vocabulary knowledge. Also, the students were motivated to be more active in the classroom activities.

7- Yunus and Chien (2016)

The study aimed at revealing the students' perception on the impact of the mind mapping on the Malaysian University English test writing. 25 students (23 females and 3 males) with different band achievement who are taking Malaysian University English test subject were participated in this study, their ages were (18 and 19) years. A questionnaire was adopted by the researchers to collect the data which is consisted of two parts; the first part contained of 7 close-ended items to know the students view about the role of mind map technique on their writing performance and the second part contained 2 open-ended items which let the student to show their opinion toward the benefits of mind mapping. The results identified that the majority of the students were felt comfortable to create and use mind map and they had a constructive view about the advantages of mind mapping. They also think that mind map helpful to arrange their ideas and to develop the ideas.

8- Heidari and Karimi (2015)

This study attempted to discover the influence of mind mapping on Iranian school students' improvement in vocabulary learning and its retention. The study conducted at Shahed High School in Hamedan, Iran. The participant were 40 male students who randomly selected and they were divided into two equal groups; experimental group and controlling group, 20 students for each group. The participats' ages ranged between (14-16) years. The experimental group was exposed to the mind mapping technique while the controlling group taught by the traditional method. Before giving them the treatment they were exposed to a pretest which is consisted of 40 multiple question and then the students were introduced to mind mapping, after that they were given posttest which is 40 different multiple questions from those in pretest. One month after the posttest they were given the same items of the posttest so as to test their vocabulary retention. MANCOVA was used to analyze the data of the study. The result demonstrated that the student of the experimental group improved their vocabulary knowledge and the integrated the new learned vocabulary with the previous learned ones. In the delayed posttest it was confirmed that the retention of the students in the experimental students was faster and stronger than those of the controlling group.

9- Malekzadeh and Bayat (2015)

They conducted the study to examine the impact of mind mapping to enhance reading comprehension of EFL students. A pre and posttest was designed to conduct the study, and the tests were given to two groups of 67 male and female students, 35 of them in the experimental group and 32 students in the controlling group. The participants' age were 25 years and they were the intermediate students of Safir Institute in Tehran, Hafthouz Branch. So, the participants of the experimental group were taught by using mind mapping as treatment. While, the controlling group was exposed to the traditional method. The treatment was lasted for about one month, after that a posttest was given to both groups. The results shown that using mind mapping is useful to enhance reading comprehension for EFL students.

10- Khudhair (2016)

The study investigated the effectiveness of applying mind mapping as pre writing tool on Iraqi EFL learners in essay writing. The participants of the study consisted of two groups; the experimental and controlling groups, 60 students of 2nd year students in the Departments of English, University of Baghdad, 30 students for each group. First of all, to achieve the aim of the study the students of both groups were given a pre-test in order to ensure comparability of their essay writing. After that, the student of the experimental group was introduced to mind mapping to improve their essay writing while the students of the controlling group were taught by the traditional method. The treatment sessions lasted for ten weeks. After the treatment sessions the participants of both group were test by giving them a posttest to make comparison between the experimental group and controlling groups' essay writing performance. Finally, the result of the study revealed that there was a significant difference in writing essay between the experimental group and the controlling group. The experimental students could improve their essay writing significantly better.

2.9 Discussion of the Previous Related Studies

The previous studies will be discussed based on six major points including; the aims of the studies, the experimental designs, the dependent variables, the samples, the statistical methods and the results.

The aim of the first three studies; Ahmad (2001), Ali (2003) and Lee (2010) were to investigate the impact of mind mapping on teaching or learning EFL learners. The main point is on using mind map to improve vocabulary, writing skill and reading comprehension, while the other two studies; Al-Bazaaz (2003) and Hazim (2001) mostly focused on developing the students' scientific skills like helping students to acquire some laboratory skills in chemistry through by using mind mapping and teaching vee diagram in cooperative learning.

Regarding to the experimental design, all of the previous mentioned studies used the experimental design of two equivalent groups which means (experimental group and controlling group) with the pre-posttest, while some of them used questionnaire and classroom observation.

The researchers of the previous studies used different types of dependent variables in their studies depending on the aim of each one, for example acquisition and word meaning retention, pre-writing strategies, writing performance and reading comprehension. Regarding to the present study, the dependent variables are ESP learners' reading comprehension.

Concerning to the samples, they varied from one study to another, generally the number of the participants ranged from 30 learners as in Al-Bazaaz (2003) to 143 as in Lee (2010).

According to the hypothesis of each study the statistical methods used in these studies also varied. In general, most of them used Kuder-Richardson formula, T-test, alpha Chronbakh formula, factor analysis formula.

About the result, the majority of the previous studies proved that using mind mapping was beneficial technique of meaningful learning opposite to rote learning to improve the EFL learners' performance in different fields of learning no matter the type of the design used. Therefore, all the previous studies supported the effectiveness of using

mind mapping in teaching reading comprehension to develop the students' performance.

The investigation of the present study can be separated from the previous mentioned studies; it tries to show the effect of using mind mapping as a meaningful technique on Iraqi ESP college students' achievement in reading comprehension.



3. METHODOLOGY

3.1 Introduction

The current chapter provides information about the population and samples of the study. Also, it focuses on the following points; setting, procedure, instruments, equalization of the experiment samples, application of the experiment and finally the statistical tools will be illustrated. Thus, the present study tries to answer the null hypothesis which is:

“There is no statically significant differences between the experimental group achievement scores which is taught by mind mapping in reading comprehension, and that of the control group which is taught by traditional method in the post test”

3.2 The Experimental Design

According to Good’s (1973) definition, the experimental design is the plan of selecting the groups (experimental and control groups), and giving treatment to the samples of the study and finally show the effect of the experimental treatment. There are two characteristics of the experimental design; first, is randomization which means selecting a sample from the population randomly and dividing the individuals of the sample to two or more groups for making comparison between them. Second, is treatment which means giving the sample of the groups distinct treatment (Bachman, 1995).

Thus, in this study two equivalent groups were randomly selected, one as the experimental group which exposed to mind mapping and the other one as the control group which attributed to the traditional model of teaching reading comprehension. Therefore, the experimental design adopted in the present is called (The Non-Randomized Design) which means (Pre-Posttest Design) (see table 3.1).

Table 3.1: The Experimental Design

Groups	Pretest	Treatment	Posttest
Exp. Group	Written (RC). T1	Mind Mapping. TT	Written (RC). T2
Con. Group	Written (RC). T1	Traditional. TT	Written (RC). T2

3.3 Population and Samples of the Study

3.3.1 Population

The population of the present study is limited to 1st year students at the Department of Management /College of Business and Management /Erbil Polytechnic University during academic year 2015-2016 in North of Iraq. The 1st stage consists of 63 male and female students which divided into two groups A and B in the department (see table 3.2). There are two main justifications for selecting this college to conduct the study; first, the college offers English course for specific purpose (ESP) which means they study English language in their specialty not general, therefore, it is suitable for the current study. Second, the college provides facilities to conduct this research successfully.

Table 3.2: Population of the Study

Gender	Group A	Group B	Total
Male	16	17	33
Female	16	14	30
Total	32	31	63

3.3.2 The Samples

The samples of the present study consisted of 40 male and female students from both groups A and B at the above mentioned college; 20 students from group A randomly selected as the experimental group and 20 from group B also randomly selected as the control group (see table 3.3).

Table 3.3: The Sample of the Study

Groups	Section	The Sample		Total
		Male	Female	
Exp. Group	A	9	11	20
Con. Group	B	10	10	20
Total	-	19	21	40

3.4 Equalization

There are some variables which may cause change in the participants' achievement, for example the students' age, their parents' education level, and the students' previous year scores in English course. To control these variance, both groups which means experimental and control groups are equalized according to the previous mentioned variables. The variable may cause variance in the testers' performance or achievement and these can be controlled if the two research groups have successfully equalized. Sample equalization plays an effective role and make different in the students' achievement in English. (Allam, 2007)

Thus, so as to make a successful equalization, a paper was given to the samples of the both groups by the researcher asking about their names, age, parents educational level and the students' previous year scores in English course, after that the information were collected and equalization has been done.

3.4.1 The Students' Age

The students' age shows their experience in learning, so that it is important and it must be equalized. The age of the participants ranged between (18-19) years. It is noticed that there is no statistically significance difference between the two groups (experimental group and control group) in terms of age, because the calculated value of Mann- Whitney U (380) is greater the tabulated value of it (138) or the p-value is greater than the common alpha 0.05. as a result, the two groups are equivalent in terms of age variable (see table 3.4).

Table 3.4: The Equalization of Both Groups on the Age Variable

Groups	No	Age		Chi-Square calculated	Chi- Square tabulated	df	Sig
		18	19				
Exp. Group	20	11	9				
Con. Group	20	8	12	0.654	3.84	1	0.05
Total	40	19	21				

3.4.2 Parents' Educational Level

The educational level of the students' parents is another variable that may influence the objectivity of the experimental design. The educational level of fathers and mothers were calculated separately according to illiterate, primary, secondary, institute, university and higher education (Master degree and Ph.D.)

3.4.2.1 Educational Level of Fathers

The calculated data shows that there is no statistically significance difference between experimental group and control group in terms of their father education because the calculated of Chi- Square (2.54) is less than the tabulated of Chi- Square (3.84) when the degree of freedom is 1 and the level of significance is 0.05 (see table 3.5).

Table 3.5: The Equalization of Both Groups on Educational Level of Father Variable

Grou p	Illite rate	Prim ary	Second ary	Instit ute	Univer sity	Chi- Square Calcula ted	Chi- Square Tabula ted	D	Sig. S
Exp.	3	5	4	3	5				
Con.	4	1	11	0	4	2.54	3.84	1	0.05
Total	7	6	13	3	4				

3.4.2.2 Educational Level of Mothers

According to the calculated data there is no statistically significance difference between the experimental group and control group in terms of their mother education because the calculated of Chi- Square (3.11) is less than the tabulated of Chi- Square (3.84) when the degree of freedom is 1 and the level of significance is 0.05 (see table 3.6).

Table 3.6: The Equalization of Both Groups on Educational Level of Mother Variable

Group	Illiterate	Primary	Secondary	Institute	University	Chi-Square Calculated	Chi-Square Tabulated	D.F.	Sig.
Exp.	7	6	3	3	1				
Con.	3	3	10	1	3	3.11	3.84	1	0.05
Total	10	9	13	4	4				

3.4.3 The Students' Previous Year Scores in English Course

The students' grades during academic year (2014-2015) in level 12 at preparatory school were taken to be equalized so as to discover whether there is a significant difference in their grades or not (see table 3.7).

Table 3.7: The Equalization of Both Groups on The Students' Previous Year Scores in English Course

Groups	No	Mean Rank	Sum of Ranks	CV	TV	Sig.
Exp. Group	20	21.48	429.5			
Con. Group	20	19.53	390.5	390	127	0.602
Total	40	-	-			

According to the data shown in the above table there is no statistically significance difference between the experimental and control groups in terms of their achievement in English course for the preceding academic year (2014-2015) because the calculated

value of Mann- Whitney U (390) is greater than tabulated value of it (127) or the p-value is greater than the common alpha 0.05. As a result, the two groups are equivalent in terms of their achievement in English course for the preceding year variable.

3.5 Setting

This study was conducted in North of Iraq at EPTU; the university consists of three technical colleges (Technical College-Erbil, Erbil Technical Engineering College and Erbil Technical Health College), and eight technical institutes (Erbil Technology Institute, Koya Technical Institute, Soran Technical Institute, Hawler Medical Technical Institute, Shaqlawa Technical Institute, Khabat Technical Institute, Choman Technical Institute and Erbil Administrative Technical Institute). The present study was administered to the students of the first stage at Technical College-Erbil /Department of Business Management where located in Erbil city, during academic year 2015-2016. The experiment started on Sunday 7th of February 2016 and ended on Sunday 15th of May 2016.

3.6 Instruments

In this study pre and posttest type of data collection instrument was used to explore whether the mind mapping improve ESP students' achievement in reading comprehension or not. Both instruments were explained in detail.

3.6.1 The Pretest

A reading passage which entitled "Uniqlo: A Global Success Story" was selected for the pre-test from their English Course book which entitled "Market Leader: Business English Course Book" by Cotton, Falvey and Kent (2012), (for elementary students). The book is used as English language course book for the students of the first stage at EPU / Technical College-Erbil /Department of Business Management. The reading passage followed by three questions; in the first question the students were asked to answer five true and false question and each correct answer gain one mark while incorrect answer gains zero. Furthermore, in the second question the students were given five words which are selected from the same reading passage and they were asked to give the synonymous of them, each correct answer gains one mark while incorrect answer gains zero mark. Finally, the third question consisted of five short

answer-question items, each correct answer gains two marks, semi correct answer gains one mark and incorrect answer gains zero mark (see appendix 1-B).

3.6.1.1 Validity of the Pretest

validity is a unitary notion that related to the extent of measurement to which the test measures and what it claims to measure, by using many statistical methods a test validity could be achieved (Richards and Schmidt, 2002). There are two important types of validity which are face validity and content validity.

Therefore, to establish the content validity of the pre-test the items has been introduced to jury members and they approved it. As face validity, the final form of the test had been submitted to a jury of specialists in the field of TEFL and education. They were asked to determine whether or not the items of the pre-test are suitable and achieve the aim of the study and measure the students' comprehension skills. Also, they were asked to add, delete or modify any item that they found incompatible. Consequently, the pre-test items approved by them since it gained approval of 85% of the jury members and all jurors agreed that the items within the accepted standards for the first stage college student. Some modifications were taken into consideration (see appendix 1-A).

3.6.1.2 Pilot Test

Cohen (2004) state that a pilot test is needed to be conducted so as to filter the test reliability of the items, and then we can determine reliability, item discrimination power and item difficulty level. After assertion of the validity, the pilot test was given to a sample of 25 first stage students at the EPU /Technical College-Erbil /Finance and Accounting department. Depending upon the results obtained, there is no serious ambiguity about the test items and the reading passage. So, the test is suitable and matches the students' level. Also, the average time required to answer the pretest items is 45 minutes.

3.6.1.3 Reliability of the Pretest

Richards and Schmidt (2002) define reliability in language testing as a measure of to which extent a test yields a consistent result. It happens when the same result achieved after being used in different occasion and by different people. A test retest was administered to a pilot sample of 10 subjects who are taken from the population, their

tests were scored by using Cronbach Alpha formula, the calculated result is 0.78 which is considered acceptable since it is above 0.50 (Anastasia and Urbina, 1996).

3.6.1.4 Items Difficulty level

Items difficulty level is the percentage of the students who answered an item correctly and is represent whether a particular item is easy or difficult, the items of the test regarded as acceptable when it is neither too easy nor too difficult. (Heaton, 1975). The range of difficulty level should be between 0.20 to 0.80 (Ebel, 1972). The result of difficulty level for all items is among the above ranges. Thus, all items are acceptable because the value of difficulty level for all items is between 0.30 to 0.70. (see table 3.8).

3.6.1.5 Items Discrimination Power

The items discrimination power defined as “how effective the test items are in showing achievement differences between groups of students” (Cohen, 2004). Furthermore, the items are acceptable when the value of discriminating power is greater than 0.30 (Ebel, 1972). Regarding the current study, the discrimination power index ranged between 0.32 to 0.69 (see table 3.8).

Table 3.8: The Difficulty Level and Discrimination Power of the Pretest Items

Items	Difficulty Level	Discrimination Power
1	0.31	0.32
2	0.59	0.65
3	0.61	0.67
4	0.45	0.59
5	0.60	0.68
6	0.32	0.42
7	0.65	0.69
8	0.50	0.45
9	0.33	0.39
10	0.45	0.41
11	0.55	0.52
12	0.45	0.56
13	0.52	0.64

14	0.40	0.48
15	0.35	0.49

3.6.2 The Posttest

A reading passage which entitled “From a Small Town to a Global Leader” was selected for both groups in the posttest from their English Course book which entitled “Market Leader: Business English Course Book” by Cotton D. etal. (2012), (for elementary students). The book is used as English language course book for the students of the first stage at EPU / Technical College-Erbil /Department of Business Management. The reading passage followed by four questions; in the first question the students were asked to answer five true and false question and each correct answer gain one mark while incorrect answer gains zero. Furthermore, in the second question the students were given five words which are selected from the same reading passage and they were asked to give the synonymous of them, each correct answer gains one mark while incorrect answer gains zero mark. In addition, the third question consisted of five short answer-question items, each correct answer gains one marks and incorrect answer gains zero mark (see appendix 2-B).

3.6.2.1 Validity of the Posttest

The content validity of the posttest the items was achieved after that the items were introduced to jury members and they approved it. Regarding to the face validity, the final form of the posttest was submitted to a jury of specialists in the field of TEFL and education. They were asked to determine whether or not the items of the posttest are suitable and achieve the aim of the study and measure the students’ comprehension skills. Also, they were asked to add, delete or modify any item that they found incompatible. Consequently, the pre-test items approved by them since it gained approval of 90% of the jury members and all jurors agreed that the items within the accepted standards for the first stage college student. Some modifications were taken into consideration (see appendix 2-A).

3.6.2.2 Pilot Test

After assertion of the validity, the pilot test was given to a sample of 20 first stage students at the EPU /Technical College-Erbil /Finance and Accounting department. The obtained results indicate that there is no serious ambiguity about the test items and the reading passage. therefore, the test is suitable and matches the students’ level. Also,

the average time required to answer the pretest items is 60 minutes, unlike the pretest because the posttest contains of four questions.

3.6.2.3 Reliability of the Posttest

To achieve the posttest reliability Cronbach Alpha formula was used, the calculated result is 0.84 which is considered acceptable since it is above 0.50 (Anastasia and Urbina, 1996).

3.6.2.4 Items Difficulty Level

The range of difficulty level should be between 0.20 to 0.80 (Ebel, 1972). The result of difficulty level for all items is among the above ranges. Thus, all items are acceptable because the value of difficulty for all items is between 0.30 to 0.70 (see table 3.9).

3.6.2.5 Items Discrimination Power

According to Ebel (1972) the items are acceptable when the value of discriminating power is greater than 0.30. The discriminating power of the posttest of the study ranges between 0.45 to 0.69. As a result, all items are acceptable because the value of discriminating power is more than 0.30 (see table 3.9).

Table 3.9: The Difficulty Level and Discrimination Power of the Posttest Items

Items	Difficulty Level	Discrimination Power
1	0.72	0.52
2	0.68	0.65
3	0.58	0.49
4	0.62	0.53
5	0.63	0.45
6	0.48	0.49
7	0.67	0.62
8	0.52	0.62
9	0.53	0.63
10	0.63	0.59
11	0.75	0.58
12	0.72	0.66
13	0.73	0.69

14	0.54	0.61
15	0.46	0.52
16	0.43	0.53
17	0.44	0.48
18	0.48	0.45
19	0.56	0.55
20	0.57	0.65

3.7 Treatment

The treatment of the study was limited to six reading passages which adopted from the class syllabus entitled “Market Leader: Business English Course Book” by Cotton D. et al. (2012), (for elementary students). The reason beyond selecting such a material is that the book was designed to enrich the language needs of ESP learners, which fits the intended behavioral objectives of the research. In addition, an important feature of the book is it provides the students with integrated skill work. The choice of interesting topics, together with the motivating task ensure the students develop the fluency and accuracy in all four skills. Regarding to the reading passages, there are six of them and after any passage the students encounter questions to be answered, charts to be completed, synonyms and short exercises (see appendix 3).

3.8 Procedure

In order to conduct the present study, the researcher officially permitted by the Head of EPU and an official permission letter was given to him (see appendix 4). After that, a timetable was fixed according to the requirement of the study, the time table was fixed in cooperation with the Head of Business Management Department, the participants of both groups were allotted one lecture (one hour) per a week (see table 3.10).

Table 3.10: Distribution of the Lectures Per-Week

Days	8:30	9:30	10:30	11:30	12:30
Sunday			Exp. Group	Con. Group	
Monday					
Tuesday					

Wednesday

Thursday

The experiment started on Sunday 7th of February and four days after that on Thursday 11th of February, after they answered the questions the papers were collected and graded by the researcher. Afterwards, the teaching sessions started which lasted for 12 weeks (after excluding the holidays), every two weeks they were given a reading passage (see appendix 5 A, B and C). The researcher himself undertaken the instruction of both groups. According to a lesson plan which prepared by the researcher and then shown to some specialists in the field of TEFL and education. They were asked to show their attitudes toward the lesson plan and they were agreed after they added some notes (see appendix 6).

The students of the experimental group were taught by using mind mapping to activate their reading background knowledge and their abilities of comprehension. On the other hand, the students of the control group were exposed to the same traditional method of teaching that has been used before. At the end of the sessions the posttest was administered to them on Sunday 15th of April to know whether the participant of experimental group improved their understanding in reading comprehension or not. Finally, the exam papers were collected and graded by the researcher to be prepared for the analyses.

4. RESULTS

4.1 Overview

The present chapter contains the statistical method and the calculated data of the tests in both groups (experimental group and controlling group) which collected, analyzed and compared through SPSS program according to the aim of the study which seeks to find out the impact of mind mapping on Iraqi ESP college students' achievement in reading comprehension.

4.2 Data Analyses

The statistical methods used in this study to analyze the data will be shown to clarify that which statistical method was used to analyze each variable, the differences between both groups, reliability and validity. First, percentage was used to find out the percentage of the samples and agreement and disagreement among the jury members concerning the validity of the pre and posttest items and the lesson plan. Afterwards, the Alpha-Cronbach Formula was used to measure the reliability of the pre and posttest. Other two statistical methods were DL and DP Formulas which used to find out the difficulty level and discrimination power of the pre and posttest items.

Regarding to the Mann-Whitney Formula, it was used for comparison between two values in a small sample and equalization of the students' age and the Equalization of both groups on the students' previous year cores in English course. Chi-Square was used to make equalization among educational level of the samples parents. Thus, these statistical tools were used as the data analyses instrument in the present study.

4.3 Administration of the Pre-test

The researcher administered the test on Sunday 7th of February 2016 to the samples. They were asked to read the passage carefully and answer the question, 45 minutes were given to them to answer. After that the researcher himself collected the papers to

grade them so as to know the students' performance in the pretest. So, the analyzed data show that there is no statistically significance difference between the two groups in terms of pre-test because the calculated value of Mann- Whitney U (360) is greater the tabulated value of it (127) or the p-value is greater than the common alpha 0.05. As a result, the two groups are equivalent in terms of pre-test. (see table 4.1).

Table 4.1: Mean Rank Differences of Both Groups in the Pretest

Groups	No	Mean Rank	Sum of Ranks	CV	TV	Sig
Exp. Group	20	18.0	360			
Con. Group	20	23.0	460	360	127	0.183
Total	40	-	-			

4.4 Administration of the Post-test

After giving treatment to the samples of the experimental group which was teaching them by using mind mapping to improve their performance in reading comprehension, while the controlling group taught by the traditional method of teaching reading comprehension; the posttest was administered to the both groups. To answer the hypothesis of the study, the scores of posttest of both groups were analyzed by using Mann-Whitney U to explore whether the mind mapping improve the participants of the experimental in the group posttest scores or not (see table 4.2).

Table 4.2: Mean Rank Differences of the Both Groups in the Posttest

Groups	No	Mean Rank	Sum of Ranks	CV	TV	Sig
Exp. Group	20	23.85	477.0			
Con. Group	20	17.15	343.0	112	127	0.042
Total	40	-	-			

It can be seen in the table (4.2) that there is statistically significance difference between experimental group and the controlling group in terms of posttest achievement in reading comprehension scores, because the calculated value of Mann- Whitney U (360) is greater than tabulated value of it (127) or the p-value is greater than the common alpha 0.05. Also, the arithmetic score of the student of the experimental group on the posttest is (23.85) while the arithmetic score gotten by the student in the controlling group on the posttest is (17.15). In both groups' mean show that there is

statistical significance difference the students' achievement scores. As a result, the two groups are not equivalent in terms of posttest achievement score in reading comprehension.

4.5 Findings

In order to achieve the aim of the present two hypotheses was formulated by the researcher. First, it is hypothesized in the null hypothesis that:

“There is no statically significance differences between the experimental group achievement scores which is taught by mind mapping in reading comprehension, and that of the control group which is taught by traditional method in the posttest”.

If the results reject the null hypothesis, the results would be positive and it means that there is effectiveness of using the mind map. In contrast, if the results accept the null hypothesis it means that there is no effect of mind mapping. On the other hand, the alternative hypothesis was formulated as follow:

“There is statically significance differences between the experimental group achievement scores which is taught by mind mapping in reading comprehension, and that of the control group which is taught by traditional method in the post test”.

If the results reject the alternative hypothesis it means that there is no impact of using mind mapping. In contrary, if the results accept this hypothesis, it means that there is effect of using mind mapping.

Furthermore, the analyzed data was shown to answer the hypothesis of the study and which one of the above mentioned hypothesis accepts and rejects. To examine the correctness or incorrectness of the hypothesis, the scores of posttest of both groups were analyzed by using Mann-Whitney U to explore whether the mind mapping improve the participant of the experimental in the group posttest scores or not (see table 4.1).

As it shown in the table (4.1) that there is statistically significance difference between experimental group and the controlling group in terms of posttest achievement in reading comprehension scores. As a result, the two groups are not equivalent in terms of posttest achievement score in reading comprehension. This means that the

difference between two means was significant and rejects the null hypothesis and accept the alternative hypothesis.

Thus, it can be said that the results of the study have proven that teaching reading comprehension by using mind mapping helped the sample of the experimental group to improve their reading comprehension skill, and it is an effective technic to teach reading comprehension for ESP learners. Also, it can be noticed that the students who were taught by mind mapping got higher scores than the students in the controlling group in the posttest. Finally, it was confirmed that mind mapping is more effective technique to teach reading comprehension than the traditional method of teaching reading comprehension for ESP learners.



5. DISCUSSION

5.1 Discussion of the Finding

Now a days using the visual organizers such as mind mapping or the other types of visual organizers such as teaching and learning materials in English language class rooms has become one of the most important and used materials due to its high advantages in improving the EFL and ESP students' ability in comprehension classrooms. Thus, the majority of the EFL instructors have tried to utilize these materials to teach the EFL and ESP students because by using these materials the students' capacity to comprehend and understand will be developed and such a development leads to a meaningful learning in English language classrooms. Therefore, the EFL and ESP learners can keep what they have learned for a long time (Piyarat, 2002; Anong, 2008).

According to the results that were obtained in the current study, which aimed to show how effective mind mapping to improve reading comprehension skill of the 1st grade ESP student at Erbil Polytechnic University: Technical College-Erbil /Department of Business Management in academic year 2105-2016. Thus, the mind mapping was compared to traditional method of teaching reading comprehension.

After administration of the pretest it was indicated that there were not statistical significant differences between experimental group and the controlling group's achievement scores as shown in (table 4.1). In contrast, the obtained data of the posttest indicated that there were statistically significant differences between the experimental group which was mind mapping used as the treatment and the controlling group which was exposed to the traditional method. Hence, using mind mapping for teaching reading comprehension was more successful for the ESP learners than the traditional method.

Accordingly, as mentioned before, the current study focused on the role of mind mapping in improving the ESP students reading comprehension ability. At the same

time as the research hypotheses are refused and the proposed alternative hypotheses is accepted. Also, a detail illustration will be introduced and showed for the reason of the refusal which means that there is an important statistical variety difference between the ESP students' performance in the experimental group and the ESP learners performance in the controlling group because of the implementation of mind mapping technique of teaching and learning reading comprehension to improve and increase the ESP students reading comprehension in English language classrooms. In addition, to demonstrate and discuss the findings of the results of the hypotheses, the following details will be offered:

First of all, the experimental group development in getting high-quality reading comprehension skills because of the effect of the application of mind mapping techniques of teaching and learning in English language learning and teaching classrooms. Also, one of the major reasons for mind mapping is to help EFL teachers in their classroom planning and conducting reading comprehension. Furthermore, to have EFL and ESP learners read variety of different kinds of texts, it is suggested that the EFL teachers analyze the structure of the text and create a mind map. Also, mind mapping is an excellent technique to arrange knowledge about subject or problem. Structures of mind mapping help out the EFL and ESP students to remember information they have already known about a subject and understand new knowledge.

Additionally, the ESP learners at the beginning of the process demonstrated little interested and attracted when they were taught by the mind mapping technique and sometimes they were so upset looking for the suitable definition for each of concept of the mind mapping. In a short time, when the ESP students were informed about how to read the mind mapping. Also, they start to participate creating good mind mapping, they demonstrated great interest and enthusiasm toward it because they felt that they could make similar mind mappings as they were made by the researcher relying on the techniques that they had been taught and their background information.

In the recent years, most of the studies conducted in the field of examining the impact of mind mapping techniques on different type of the field of information highlighted the important role of applying the mind mapping techniques in teaching and learning all aspects of English language acquisitions especially for mind mapping for its vital advantages that may help in increasing and getting most of the learning and teaching purposes. They may offer the EFL and ESP with a systematic resource to integrate

their new information with their previous understanding; make activate the EFL and ESP students' previous information and motivating them to utilize that information to interact with the passage.

Moreover, the process of making such a mind map helps the teachers to show what is significant enough about any kind of reading passage to be highlighted in EFL classrooms. It had been obviously observed how excited EFL and ESP students were with this way of teaching reading for interactional purpose. They were so activating to extent that they started providing their suggestions to develop the mind mapping. The EFL and ESP students' suggestions and ideas were unexpected when they introduced their choices and thoughts to develop a concept in a mind map or develop a definition of one idea or another one. Also, this shows that what Novak (1993) indicated that once the EFL students become familiar with the nature of the mind map, they can make their own mind maps throughout reading or post- reading activity.

Furthermore, the findings of the present study match with the results of another study by Mahmoud (2008), who find out that using mind mapping is useful and effective to improve the ESP learners' achievement in reading comprehension. Also, there are a large number of studies that assert effectiveness of using mind mapping for teaching reading comprehension and other skills in various fields; Şahin (2013) carried a study on the impacts of mind mapping on the EFL students' achievement in reading comprehension. Another study is Saleh (2010) who conducted his research to investigate the role of mind mapping to improve the EFL students writing skill. Talebinezha (2007) investigated the impact of using concept map on students' self-regulation. Moreover, Indrayani (2014), focused on the role of network map to improve the students' reading comprehension of narrative texts.

Furthermore, it can be said that implementing mind map support the learners to master their vocabulary. In the meantime, the key words were central in drawing a concept map, the learners were trained to discover some words which represented an idea and then put in each branch of the mind map; as stated by DePotter et al. (2004), when they explore the steps of mind mapping “write the keywords or phrases in every branch and then develop them with details”.

Finally, McGriff (2000) states that the concept map is an outstanding procedure to unify information and to aid the students to understand the ideas in their classrooms.

He thinks that it is a vital technique to support the students reading ability, because with this technique they can organize their ideas. Also, the mind map technique is one of the most effective teaching tools to note taking, and improve the learner's creative problem solving. By using this technique, we can comprehend what is written in one's writing. It also leads the student to differentiate among the main and minor ideas, and simplifying it to remember what they have read very easily (Goodnough and Long, 2002).

5.2 Limitation of the Study

This study basically focuses on using mind mapping only on Iraqi ESP learners' achievement in reading comprehension. The study is limited to the students of first stage at Erbil Polytechnic University /Technical College-Erbil /Department of Business Management, during academic year 2015-2016. The study continued for 3 months which starts on Sunday 7th of February 2016 and ended on Sunday 15th of May 2016. The period was not sufficient for the researcher to improve the students' performance in reading comprehension, longer time would give better results. Also, the samples of the study are too small which consisting of forty students and divided into two groups; each group consisted of twenty students, it would be better if the study was conducted among a larger group of students. However, mind mapping is useful to help the learners to manage their idea and remember the information, but some of the students faced difficulty to draw an accurate map to simplify reading passages for them because mind mapping was a new technique for them. Finally, it can be said that conducting the study by researcher is not avoidable that lack of objectivity can be found, it would be better if it was conducted by two or more inspectors.

6. CONCLUSION, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

6.1 Conclusion

Generally, the present study concentrated on the examination of mind mapping which is a visual organizer. The study aimed to examine the role of mind mapping in teaching reading comprehension on Iraqi ESP college student. The samples of the study consisted of 40 first year students who were selected randomly at Erbil Polytechnic University / Department of Business Management during academic year 2015-2016. The participants divided into two equal groups; the first one as the experimental group and the other one as the controlling group, each group contained of 20 male and female students whom their ages ranged between (18-19). The experimental group was taught by mind mapping, while the controlling group was taught by the traditional method. They were exposed to pre to measure their knowledge in reading comprehension. Afterwards, the treatment was given to the experimental group to examine the impact of the mind mapping on the participants' performance in the posttest. The period of giving treatment lasted for three months. Then, they tested again (posttest) to know the difference between the participants of both groups. The outcome of the study revealed that there was a significance difference between the two groups in the posttest scores, and mind mapping proved to be beneficial to develop the students' ability in reading comprehension.

Basically, this study seeks to prove the advantage of mind mapping as a visual organizer to aid the students in teaching and learning English language, because visual organizers now a days are one of the most beneficial material to learn English language. In the light of the findings, it can be said that the majority of the participants believes that mind mapping helped them to improve their understanding and simplifying the reading passages for them. In addition, ESP learners most of the time face problem in understanding reading passages due to the use of the traditional method in teaching reading comprehension, and the students do not have a chance to

practice English through different activities in a stress free atmosphere in the classrooms.

6.2 Pedagogical Implications

It is clear in the findings that mind mapping plays a vital role in promoting the ESP students' reading comprehension. More specifically, mind mapping not only develop their reading comprehension but it helps them to improve their vocabulary knowledge and how to tie information in the text together. Considering the current study, pedagogical implications for can be proposed as, first, it is important for ESP teachers to use mind mapping to improve in their classes so as to develop the students' reading comprehension ability. Second, encouraging the students to use mind mapping strategy to organize their thoughts and broaden their reading skills. Third, the study has some implications for syllabus design. Curriculum developers and textbook writers may incorporate teaching strategies that can help students' reading comprehension using the mind mapping techniques or steps to help them develop their reading skills. Fourth, a part for mind mapping in the text book can be designed by syllabus designers, because incompatible different types of mind mapping with different expository texts can be introduced. Fifth, by asking the students to brainstorm related words to the topic of reading, it will bring active involvement to the class.

Furthermore, there are some other researchers who tried to show the advantage of mind mapping in learning English language. Abbas (2012) concluded that mind mapping improve the learners' motivation and interest in reading comprehension class. She adds that mind mapping is considered as one of the most effective technique, because it increases the learners' vocabulary matrix, background knowledge and it is a helpful pre-reading tasks which promote EFL student self-regulation meaningful learning which is opposite to the rote learning.

Similarly, Suryani (2015) examined the impact of mind mapping on the school students' development in reading comprehension. The results of his study proved that mind mapping is a useful technique to improve the students' knowledge in reading compression. He comments that increasing reading comprehension ability leads them to understand the information that is given in the text very easily.

Also, Indryani (2014) stated that mind mapping is an effective technique to develop the students' reading comprehension ability of narrative text. He adds that after conducting the study and teaching the students by using mind mapping the learners' knowledge of understanding a narrative text were increased comparing with before.

Finally, it can be said that using visual organizers especially mind mapping increases the student's ability in reading comprehension and encourages them to cooperative learning make them to exchange their ideas.

6.3 Recommendations

1. Mind mapping is a helpful technique to teach the students meaningfully instead of rote learning.
2. It is necessary to use mind mapping in the reading comprehension class.
3. Various types of mind mapping need to be used in the classroom in order to provide the students with different learning activities.
4. ESP teachers should pay attention to the reading comprehension topics related to the fields that have close relationship with the students' specialization.
5. The students have to read more so as to master their understanding.
6. The ESP teachers have to motivate the students to read more for mastering their understanding.
7. The ESP teachers should encourage the student to construct mind map cooperatively among the students in reading lessons.
8. More attention must be paid to comprehension in reading lessons for making association between the reader and the text.

6.4 Suggestions for Further Studies

The researcher suggests the following points for further studies:

1. Studying the effect if using mind mapping as a teaching technique on the spelling skills of the ESP students and EFL students.
2. Studying the effect if using mind mapping as a teaching technique on the ESP students' motivation.

3. Examining the impact of mind mapping on the improving the ESP and EFL students' writing performance especially essay writing.
4. A study can be made to find out the impact of mind mapping on elementary and secondary schools on different skills and elements of language.
5. Another study can be conducted to find out the role of mind mapping to develop the students' reading comprehension of the different types of texts such as; narrative texts, expository texts and argumentative texts types.



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APPENDICES

Appendix 1-A: Validity of the Question Items of the Pretest of Reading Comprehension

**Kurdistan Regional Government/Iraq
Ministry of Higher Education and Scientific Research
The Jury Members**

A letter to the jury members ...

Dear Sir / Madam

The researcher intends to conduct a pretest of a study entitled "On the Effect of Mind Mapping on Reading Comprehension Skills of Iraqi ESP Learners". The study is limited to English language course of the first stage at Technical College-Erbil /Department of Business Management students. The test consisted of one reading passage followed by 15 questions which are true/false, synonyms and short question-answer to assess the students' comprehension level. You are kindly requested to to make comments and suggestions on:

- 1- The suitability of the reading passage and the students of the 1st year ESP learners.
- 2- The strength of the items and whether any weaknesses are observed and any modification is necessary.

Any alteration, removal or adding will be gratefully appreciated.

Thanks for your collaboration and guidance.

Supervisor

Prof. Dr. Akbbar Rahimi Alishah

Researcher

Hasan Anwar Hasan

Appendix 1-B: Reading Comprehension Pretest

Uniqlo: A Global Success Story

Tadashi Yano, the founder of Uniqlo, is Japan's richest man. That's not bad for someone who started with a single store in Hiroshima in 1984 and now has a global **retail** business. The company sells high-quality casual clothes at low prices. Uniqlo grew quickly in Japan during the 1990s. In 1998, it had over 300 stores. Following the good results in Japan, Yano decided on global **expansion**. It started with stores in the UK in 2001. It didn't work. Most of the stores were too small and in the suburbs of cities. In 2003, Uniqlo closed most of them. In 2005, Yano changed strategy. The new strategy was to open large stores in major cities around the world. The **relaunch** of Uniqlo began in November 2006 with the opening of a flagship store in New York. Over two years, the number of international stores went up from 54 to 92, including flagship stores in London and Paris. Yano also **hired** the German designer Jil Sander in April 2009. Her role was to design a collection for Uniqlo and to be the creative consultant for the company. The collection went on sale in selected stores in March 2010. In 2010, Uniqlo made profits of ¥49.8 bn. Yano sees Asia as a key market for Uniqlo. In 2007, the company had 26 stores across Asia. The number **increased** to 64 at the end of 2010, including a flagship store in Shanghai. Yano's plan is for another 500 stores over the next five years, mainly in China. Yano also aims to introduce Uniqlo stores in the fast-growing Indian and Brazilian markets.

- Read the passage carefully and answer the following questions:

Q1: Say whether each of the following statements is True or False:

- 1- In the 1990, Japan was Uniqlo's main market.
- 2- Uniqlo had a lot of success when it entered the UK market in 2001.
- 3- Yano's new global strategy was to open big stores in important cities.
- 4- At the end of 2008, Uniqlo had 92 international stores.
- 5- Yano hired Jil Sander to design all Uniqlo's clothes.

Q2: Give the synonymous of the underlined words in the reading passage.

- 1- retail
- 2- expansion
- 3- relaunch
- 4- hired
- 5- increased

Q3: Answer the following questions:

- 1- How did Yani start his business?
- 2- What does the company sell?
- 3- What was the role of Jil Sander in the company?
- 4- How many stores did Uniqlo have at the end of 2010?
- 5- What is Yani's plan over the next five years?

Good Luck

Appendix 2-A: Validity of the Question Items of the posttest of Reading Comprehension

Kurdistan Regional Government/Iraq

Ministry of Higher Education and Scientific Research

The Jury Members

A letter to the jury members ...

Dear Sir / Madam

The researcher intends to conduct a posttest of a study entitled "On the Effect of Mind Mapping on Reading Comprehension Skills of Iraqi ESP Learners". The study is limited to English language course of the first stage at EPU /Technical College-Erbil /Department of Business Management students. The test consisted of one reading passage followed by 15 questions which are true/false, synonyms and short question-answer to assess the students' comprehension level. You are kindly requested to to make comments and suggestions on:

- 1- The suitability of the reading passage and the students of the 1st year ESP learners.
- 2- The strength of the items and whether any weaknesses are observed and any modification is necessary.

Any alteration, removal or adding will be gratefully appreciated.

Thanks for your collaboration and guidance.

Supervisor

Prof. Dr. Akbbar Rahimi Alishah

Researcher

Hasan Anwar Hasan

Appendix 2-B: Reading Comprehension Posttest

From small town to global leader

Angela Ahrendts is the American **CEO** of Burberry, the \$2.2 billion fashion company. Burberry is one of the biggest luxury brands in the world. The headquarters of this British company are in London, and it has more than 270 stores in 80 countries. Fifty-year-old Ahrendts is from a small town in Indiana. She is married to Greg, her high-school **sweetheart**. They have a son (15) and two daughters (14 and 11). Their son, Jennings, dreams of being a rock star. The children are at an American **international** school in London. Ahrendts is always elegant. Most days she wears Burberry- usually something from its Prorsum range. She usually gets up around 4.30. ‘ I need a quiet time in the morning to answer e-mails, ’ she explains. On days when Ahrendts is in London, she often has **back- to-back** meetings for 10 hours. She keeps going by drinking six Diet Cokes a day. She travels on business one week a month, but tries to get home for weekends. Family is important for Ahrendts. ‘I’m at work or with my family. I don’t have time for other things’ when she is not working, she likes to eat a Takeaway pizza with her children or play basketball with them. Ahrendts and The family go back to Indiana for holidays several times to **stay in contact** with their cousins, ’ she says.

- Read the passage carefully and answer the following questions:

Q1: Say whether each of the following statements is True or False:

- 1- Burberry is an American company.
- 2- Burberry is a global fashion company.
- 3- Ahredts’ children are at school in America.
- 4- She has a lot of interests outside work.
- 5- For Ahrendts, keeping in contact with relatives is important.

Q2: Give the synonymous of (5) of the underlined words in the reading passage.

- 1- CEO
- 2- Sweetheart
- 3- International
- 4- Back- to-back
- 5- Stay in contact

Q3: Answer the following questions:

- 1- Who is Angel Ahrendts?
- 2- Where are the headquarters of Burberry?
- 3- What does Ahrendts' son dream of?
- 4- How many times does she travel per a month?
- 5- What does she like to do when she is not working?

Q4: Choose the correct answer to fill the blank:

- 1- Burberry is company.
(a- An American b- An Indian c- A Russian d- A British)
- 2- Ahrendts' husband is
(a- Greg b- Jenings c- Ahrendts d- Her cousin)
- 3- Ahrendts' son is
(a- 11 b- 12 c- 15 d- 16)
- 4- The main offices of Burberry are in
(a- Indiana b- London c- Moscow d- Paris)
- 5- Ahrendts and Greg havechildren.
(a- Two b- Three c- Four d- Five)

Good Luck

Appendix 3: The Reading Passages Used as Treatment

1- Hilton Tokyo

The Hilton Tokyo is in the Centre of Tokyo's Shinjuku skyscraper business district. This luxury, hotel has 808 guest rooms and a choice of seven inviting bars and restaurants. Guests can swim in the hotel's indoor pool, play tennis on one of the two rooftop tennis courts, or relax in the Jacuzzi and sauna in the hotel's 24-hour health club. Guests can visit nearby Tokyo attractions, including Yoyogi Park, the Meiji Shrine and the Imperial palace. For guests with children, the Tokyo Disney resort is about 20 kilometers from the hotel. The hotel's 240-hours reception team offers advice on places to visit. Guests can also book sightseeing tours and theatre tickets. Shinjuku's busy shops are a 10-minute walk from the hotel. Guests feel at home in the spacious rooms, with large windows and city views. In each room, there is a desk, air conditioning and voicemail. Rooms have high-speed internet access, a flat- screen TV and on-demand videos.

The Musashino serves Japanese specialties. Le Pergolese offers French cuisine. Guests can try Chinese food at the Dynasty and order a midnight snack at the Marble Lounge. The Hilton Tokyo is the perfect place for meetings. There are 16 meeting rooms. The largest room has space for 1,200 people. There is also a 24-hour business Centre. From Narita International Airport, the easiest way to arrive is to take the airport limousine. It takes about two hours. Getting around is easy There is a free shuttle service from the hotel to Shinjuku station. The hotel is also directly connected to the Tokyo Metro subway.

2- India Likes Fast-food Chains

Busy lives, higher salaries and an increasing number of women at work all mean there is a lot of demand in India for fast food. In India, McDonald's has a lot of fans because of its low price and vegetarian dishes. At lunchtime, the McDonald's at Mumbai's Phoenix Mills- a big shopping centre-is full of college students, mothers and office workers. Akshaya Batta, 30, has a quick lunch at McDonald's at least once a week, rather than carry a lunch box from home, as a lot of Indians still do. Sahal Amlani, 30, a store manager, spends Rs50 (\$1.10) on an afternoon snack at McDonald's twice a week and takes his family for a McDonald's meal, spending about Rs300 (\$6.60) every weekend. International fast-food companies like McDonald's know how important it is to adapt their food for Indian tastes. They make the menus more spicy and they offer more vegetarian dishes, all at a low price. In its restaurant, McDonald's does not offer any beef dishes because the mainly Hindu population does not eat beef. Instead, it offers mutton and chicken Maharaja Mac. Kentucky Fried chicken (KFC) adapts its chicken dishes for local tastes with the use of Indian spices and cooking techniques. The pizza Hut menu has a mix has a mix of Indian and international dishes. Anup Jain, Director of Marketing for pizza Hut India, says, "We adapt 20% of our menu for Indian tastes. About 60% of people are vegetarian, so we have a lot more vegetarian toppings on our pizzas."

3- Women at the Top: Andrea Jung

In 2011, Andrea Jung celebrated 12 years as Chief Executive of Avon Products. It is a big job. Avon sells cosmetics door to door in more than 120 countries. It has 6.2m sales representatives and a billion customers. It sells four lipsticks and 190 mascaras every second. Jung was born in Toronto to Chinese immigrant parents. Her parents moved to the US when she was two, to get a better education for their children. She grew up in Massachusetts and graduated from Princeton. She speaks fluent Mandarin. “My parents were important in forming my views about leadership,” she says, Determination is a strong quality in Chinese culture. In her early career, she had a job that wasn’t interesting. She told her parents she didn’t like the job and wanted to quit. “Quit? They said. ‘ The Chinese don’t quit. You learn more from bad than good experiences- that’s how you grow. Jung joined Avon in 1994. Four years later, she became Avon’s first female CEO. At that time, the company had revenues of \$4bn. Today, its revenues are more than \$10bn. Avon is known as “the company for women”. Most of Avon’s representative are women. About half the managers and four out of the nine members of Avon’s board are women. Jung says there are good business reasons for management teams with a mix of men and women. “In mixed teams, communication and decision- making are better.” Famous for her long black hair, pearl necklaces and her passion for Avon, Jung is one of the world’s top business leaders. She is also on the board of GE and Apple.

4- Volkswagen's Black Beetle Ad


In spring 2011, Volkswagen asked the US advertising agency Deutch, LA to create a TV commercial to launch its latest car, the 2012 beetle. The 2012 Beetle is bigger, more powerful and more masculine in design than the earlier model, the New Beetle, launched in 1987. Head of design. Klaus Bischoff said, "We wants to give the car a stronger and more masculine look." The idea was to attract more male drivers. More women than men bought the New Beetle. (Sales to women were 61 per cent in 2010.) Luca De Meo, Marketing director, wants to see a 50-50 split between men and women for the new car. The 30-second advert shows a beetle racing through a forest. The beetle has a racing stripe on its back and is much bigger than the other insects. It races past the other insects and cuts corners, just like a high-performance car. At the end of the advertisement, the beetle changes into the outline of the car, in the shadows. The music for the advertisement is the rock song black Betty. Using an image of a beetle for the car is not the most original advertising idea, but the advert is fun to watch. VW first showed the advert during the commercial breaks of the American football super Bowl in April 2011. There is usually a lot of interest in the ads during these breaks, and companies can pay \$3 million for a 30-second commercial. Later that month, VW showed the new car to the public at launch events in three cities: first in Shanghai, then in Berlin and New York.

5- Lessons in cultural difference

It is 9.05 a.m. and a group of Chinese businessmen are outside a hotel conference room in São Paulo, waiting for their Brazilian hosts. The seminar was scheduled to start five minutes ago, but, like many meetings in Brazil, it did not start on time. The Brazilians arrive, complaining loudly about the morning's traffic and go immediately to breakfast. Cultural differences between the two countries become clear. In 2009, China replaced the US as Brazil's biggest trading partner. As a result, Brazilian companies are keen to understand the Chinese better and find the best way to do business together. For companies already working with china, getting to know the culture is a priority. At Chinbra, São Paulo's biggest Chinese language school, students, who mainly work in the import business, take evening classes in Mandarin. About half the lesson is about cultural issues. They ask questions such as "Should I give my business card with two hands?" and "What presents should I give- something Brazilian?" Some business deals fail because of small things like a misunderstood e-mail. "In addition to language problems, there is also a lack of cultural understanding between the two countries," says Charles Tang, president of the Brazil-China Chamber of Commerce. One big issue is timing. For successful deals with the Chinese, it is important to be on time for meetings and to meet deadlines. Another issue is planning. In Brazil, because of high inflation during the 1980s and early 1990s and many failed plans, long-term planning was not a priority. Today, many companies still prefer to plan as they go along and fix problems when they happen. The Chinese are completely different. They like to plan everything in advance and in detail.

6- New Markets for Gamesa

Four new wind turbines, beside a banana farm in a southern Indian village, turn in the wind, producing electricity for the local community. The turbines are made by Gamesa, a world leader in wind technology. The Spanish company designs, manufactures and installs wind turbines all over the world. It has sales offices in 20 countries and 30 manufacturing plants in Europe, the US, China and now in India and Brazil, too. It employs nearly 8,000 people worldwide. Because of weakness in its traditional European and US markets, Gamesa's strategy for growth is to expand its business in India and Latin American, especially Brazil. The strategy is working. In the first half of 2011, revenues rose by 26% to €1,297 million. In the same period, sales were up 29%. For the first time in its history, 100% of its sales were from outside Spain.



Appendix 5-A: Validity of the Teaching Lesson Plans

Kurdistan Regional Government/Iraq

Ministry of Higher Education and Scientific Research

The Jury Members

A letter to the jury members ...

Dear Sir / Madam

The researcher intends to conduct an experimental study of teaching reading comprehension to first-year ESP student at EPU / Technical College-Erbil /Department of Business Management, the study entitled "On the Effect of Mind Mapping on Reading Comprehension Skills of Iraqi ESP Learners". The aim of the study is to use a new technique of teaching which is mind mapping in teaching reading comprehension. The following teaching lesson plans will be used in teaching the reading passages of the teaching program which will last for 12 weeks, each plan should be covered within 2 weeks.

You are kindly requested to make comments and suggestions on the suitability of the teaching plans which will be used in teaching mind mapping and the level of first-year students and whether any weaknesses are observed and any modification is necessary. Any other suggestions will be highly appreciated. Thank you very much for your cooperation and support.

Supervisor

Prof. Dr. Akbbar Rahimi Alishah

Researcher

Hasan Anwar Hasan

Appendix 5-B: A Sample of Lesson Plan for the Controlling Group

Reading Passage: **New Markets for Gamesa**

Time required: 2 weeks (2 teaching hours).

Grade: first-year students.

Text book: Market Leader: Business English Course Book.

Material needed: only the text book and the white board.

The procedure during class:

- 1- Students will be warmed up by making a kind of class discussion about the main idea of the reading text, by asking them some interactive questions.
- 2- Some vocabularies in the reading passage will be written on the white board.
- 3- The students will be asked to read the passage silently for five minutes.
- 4- The students will close their books and listen to the researcher while he reads the reading passage for the class once or twice.
- 5- The researcher will ask some individuals to read the passage aloud for the whole class and the students follow in their books.
- 6- Students will close their books and listen to the researcher while he raises some comprehension questions about the reading passage.
- 7- Students will use the words or meanings written on the white board to answer the comprehension questions.

Appendix 5-C: A Sample of Lesson Plan for the Experimental Group

Reading Passage: **New Markets for Gamesa**

Time required: 2 weeks (2 teaching hours).

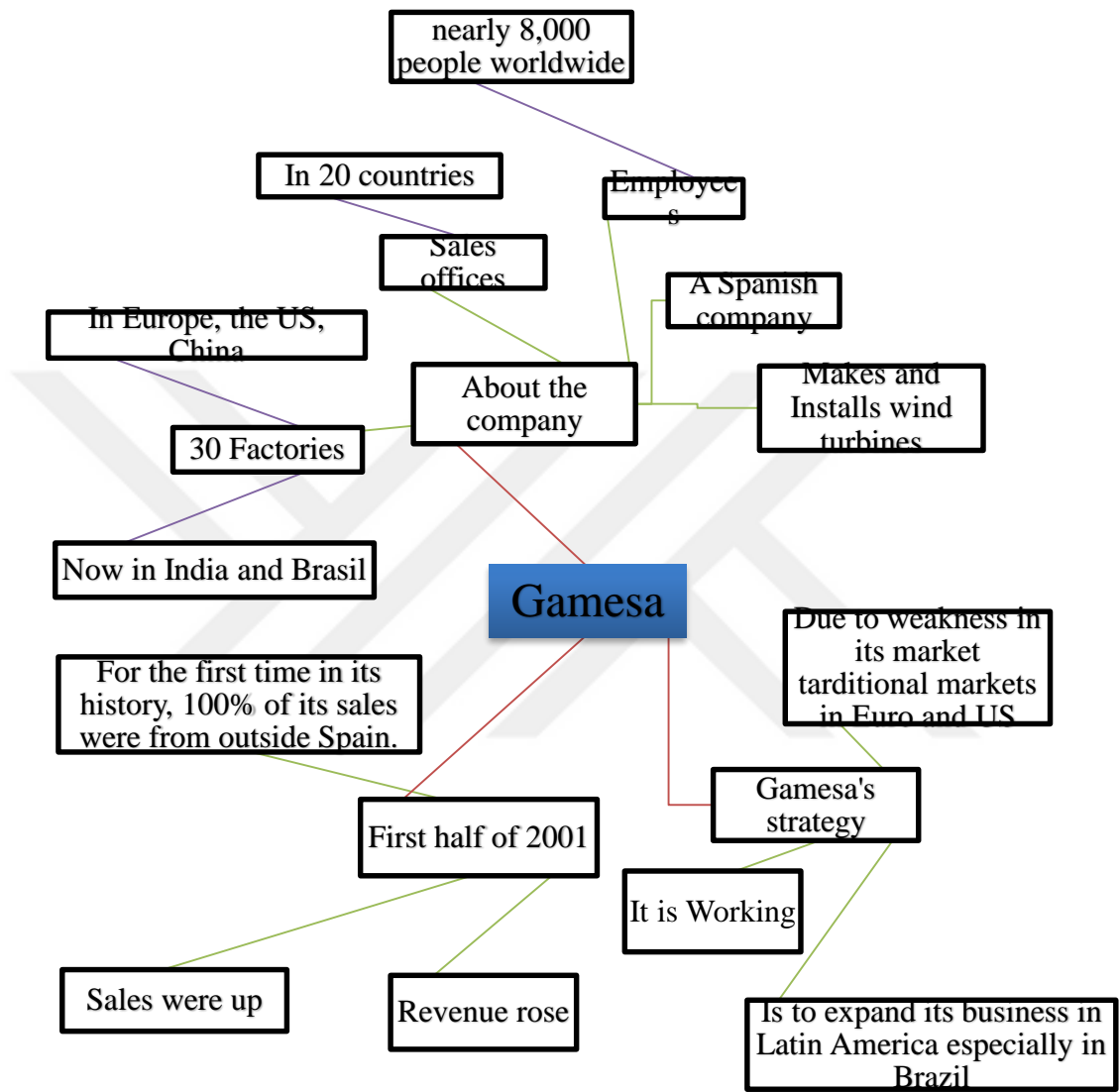
Grade: first-year students.

Text book: Market Leader: Business English Course Book.

Materials needed: the text book, power point program about the reading passage, a blank mind map outline and some photos about the topic are needed.

The procedure during class:

- 1- The student will be divided into 5 groups, 4 students for each group.
- 2- The students' brain will be stormed by asking some opening questions so as to activate their background knowledge.
- 3- After the students reach enough understanding of details of the topic, the researcher reads the passage in the text book once or twice.
- 4- A blank mind map which fits the type of the text under discussion will be distributed on the students.
- 5- The students of each group will be asked to find three main ideas they think that are important in the passage.
- 6- Then, they will be asked to compose a middle-sized map for each one of the main ideas, the researcher encourages and helps them.
- 7- A detailed class teacher-student interaction will take place to decide the weak and strong points of each mind map to choose the accurate one for the reading passage.



Appendix 6: Names of the Jury Members

No	Names	Academic rank	University	College
1	Ali Mahmud Jukil, Ph. D	Prof.	Salahaddin	Basic Education
2	Wriya Ezaddin, Ph. D	Assist. Prof.	Salahaddin	Languages
3	Azad Hama Sharif, Ph. D	Assist. Prof	Salahaddin	Languages
4	Abbas Fadhil Latif, Ph. D	Assist. Prof	Salahaddin	Languages
5	Salam Nima Hurmz, Ph.D.	Instructor	Salahaddin	Languages
6	Wriya Ahmad Amin, Ph.D.	Instructor	Salahaddin	Languages
7	Lanja Abdul-Razaq, Ph. D	Instructor	Salahaddin	Languages
8	Nada Jabbar Abbas, Ph. D	Instructor	Salahaddin	Education
9	Dlovan Sayfaddin, Ph. D	Instructor	Salahaddin	Education
10	Muhamad Omer Ahmad, Ph. D	Instructor	Salahaddin	Education
11	Anjuman Sabir, Ph. D	Instructor	Salahaddin	Education
12	Hamid Abdullah	Head of English Department	Salahaddin	Languages

Evrak Tarih ve Sayısı: 12/01/2017-290



T.C.
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Kurul Onayı İlk.

12/01/2017

Sayın Hasan Anwar Hasan HASAN

Enstitümüz Y1312.020046 numaralı İngiliz Dili ve Edebiyatı Anabilim Dalı İngiliz Dili ve Edebiyatı Tezli Yüksek Lisans programı öğrencilerinden HASAN ANWAR HASAN HASAN'ın "ON THE EFFECT OF MIND MAPPING TO IMPROVE READING COMPREHENSION SKILL OF IRAQI ESP LEARNERS" adlı tez çalışması gereği "Pre Reading Comprehension" ve "Post Reading Comprehension" ile ilgili anketlerinin 09.01.2017 tarih ve 2017/02 İstanbul Aydın Üniversitesi Etik Komisyon Kararı ile etik olarak uygun olduğuna karar verilmiştir.

Bilgilerinize rica ederim.

Prof. Dr. Özer KANBULOĞLU

Mühür

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- **Bachelor: 2012, Salahaddin University, College of Language, English Language Department.**
- **Master: 2015, Istanbul Aydın University, English Language and Literature, Department of English Language and Literature, English Language and Literature Program.**