

On the Effect of Mind Mapping on Reading Comprehension Skills of Iraqi Esp Learners

Hasan Anwar Hasan

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.*

Özet

Zihin haritalama öğretim ve öğrenme İngilizce dil geniş biri haline gelmiştir gibi görsel düzenleyiciler kullanarak son iki yıl içinde kullanılan teknik yayıldı. Çalışmada okuduğunu anlama ESP öğrenenler arasında öğretim bir anlamlı öğrenme teknik olarak zihin haritalama kullanımının etkisi üzerinde yoğunlaştı. Rasgele seçilmiş iş yönetimi bölümünde kırk Iraklı öğrencilerin Erbil Politeknik Üniversitesi'nde çalışma katılımcıların oluşuyordu. Onlar iki farklı gruba ayrıldı; eşleme ve okuduğunu anlama, her grup için 20 öğrenci öğretim geleneği yöntemlerine maruz grup kontrol zihin tarafından öğretilen deney grubu. Hepsinin yaşları (18-19) yılları arasında değişmekteydi. Katılımcılar on dokuz ve yirmi erkeklerde vardır. Çalışmanın başında onlar onların okuma ölçmek için bir Öntest verildi anlama yeteneği. Daha sonra on iki hafta tedavisi verildi. Bundan sonra onlar posttest deneysel grupları bilgi ya da değil için Öntest karşılaştırma artmış olup olmadığını bilmek test edildi. Son olarak, bulgular resimli bir deney grubu ve anlama puanları okuma posttest başarı açısından kontrol grubu arasında istatistiksel olarak fark önemi. Böylece, zihin haritalama okuduğunu anlama öğretim yararlı olduğu ortaya çıktı.

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

Introduction

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).

Thus, mind mapping can be used as a meaningful learning strategy to facilitate reading comprehension for ESP learners. The 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)

Furthermore, it 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).

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.

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 or not.

Research Hypothesis

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

1- Null Hypothesis (Ho)

“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 (Ha)

“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”.

Literature Review

1. David Ausubel's Meaningful Learning Theory

The theory focuses on learning students with a meaningful way of relating new information to the prior existing knowledge. The theory consists of some key principles; the researcher tries to shed a light on these key principles. First, principle of integrity; 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.

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.

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. Additionally, Ausubel, Novak and Hanesian (1978), argue that there is another key principle which 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.

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. 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.

Furthermore, 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. 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.

2. 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.

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 (Farrand, Hussain and Hennessy, 2002). Moreover, mind map can be made very easily in several ways, 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.

In addition, 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.

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). 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. Also, Anne and Joan (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. 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.

3. English for Specific Purpose (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). 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.

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.

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 (Strevens, 1998; Bojovic, 2006; Gatehouse, 2001; Dudley Evans, 1997).

Al-Bazaaz (2003) 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. 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.

Moreover, Hazim (2001) conducted a study to investigate 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. 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.

4- 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 (Jeremy, 2007). 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.

In addition, Grabe and Stoller (2011) investigate the purposes of reading; they think that the reasons of reading are reading for simple information and skim quickly, some people read written texts to learn, reading to merge information, write and criticize written texts, and reading for general comprehension.

Ahmad (2001) attempted to investigate the effect of brainstorming on teaching reading comprehension in English to university students. 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.

Also, Ali (2005) conducted a 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). The results indicated that there are statically significance differences between the experimental group which has been exposed to the semantic map technique, and the control group which has not been exposed to the same suggested technic in reading comprehension, and in favor of the experimental group.

Additionally, there are some factors that affect reading comprehension and facilitate the meaning of the text for the readers. First, 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; Nagy, 1988; 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.

Second, 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).

Third, 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 (Labioud, 2007).

Methodology

1- Participants

The sample of the present study consisted of 40 male and female students from both groups A and B who their ages ranged between (18-19) years; 20 students from group A randomly selected as the experimental group and 20 from group B also randomly selected as the controlling group (see table 1).

Table 1: 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

2- Setting

This study was conducted in North of Iraq at Erbil Polytechnic University; it 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- 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.

A- The Pretest

A reading passage which entitled "Uniqlo: A Global Success Story" was selected for the pretest 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.

B- 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, 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 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.

4- 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, Falvey and Kent (2012), (for elementary students). The reading passages that was selected consisted of twelve passages of them and after any passage the students encounter questions to be answered, charts to be completed, synonyms and short exercises.

5- Procedure

The participants of both groups were allotted one lecture (one hour) per a week. 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. The researcher himself undertaken the instruction of both groups.

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 controlling 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.

Results and Data Analysis

1- 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.

2- 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 2).

Table 2: Mean Rank Differences of Both Groups in the Pretest

Groups	N	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	-	-			

3- 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 3)

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	-	-			

Table 3:

Mean Rank Differences of the Both Groups in the Posttest

It can be seen in the table (3) 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- Discussion of the Finding

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 2). 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.

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 pf 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.

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.

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