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The Effect of Using Mind Maps in the Acquisition of English for Students in Second Stage of College of Administration and Economics

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Article Information

Abstract

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Key words :

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The current study aims to explore the effect of using mind maps on acquisition of English grammar for students in second stage of College of Administration and Economics.

The study population consists of second year students in Business Administration Department/ College of Administration and Economics/ University of Mosul.

Researcher intentionally selected (82) second-year students and prepared an achievement test in the form of a multiple choice question to test grammar achievement.

Instruments used in this research have been divided into the following three phases:

- 1- Pre-test: to find out the initial ability of students before presenting the materials according to mind maps strategy.
- 2- Treatment: given before the students post-test.
- 3- Post-test: to find out students' development after presenting the material through the application of mind maps strategy.

By using a set of statistical means to analyze data, the results showed a statistically significant difference in mean scores of both pre- and post-test of grammar acquisition (in English language) after using mind maps strategy.

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أثر استخدام الخرائط الذهنية في اكتساب اللغة الانكليزية لطلبة المرحلة الثانية بكلية الادارة والاقتصاد

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مستخلص البحث

تهدف الدراسة الحالية إلى معرفة أثر استخدام الخرائط الذهنية في اكتساب قواعد اللغة الإنجليزية لدى طلاب المرحلة الثانية بكلية الإدارة والاقتصاد.

يتكون مجتمع الدراسة من طلاب السنة الثانية قسم إدارة الأعمال/ كلية الإدارة والاقتصاد/ جامعة الموصل.

وقد عمد الباحث إلى اختيار (٨٢) طالباً من طلاب السنة الثانية، وقام بإعداد اختبار تحصيلي لاختبار التحصيل النحوي على شكل (اختبار من متعدد).

وقد تم تقسيم الأدوات المستخدمة في هذا البحث إلى المراحل الثلاث التالية:

١- الاختبار القبلي: والغرض منه معرفة القدرة الأولية للطلاب قبل عرض المواد وفق استراتيجية الخرائط الذهنية.

٢- العلاج: يتم تقديمه قبل أداء الطلاب للاختبار البعدي.

٣- الاختبار البعدي: والغرض منه معرفة تطور الطلاب بعد عرض المادة من خلال تطبيق استراتيجية الخرائط الذهنية.

باستخدام مجموعة من الوسائل الإحصائية لتحليل البيانات، أظهرت النتائج أنه كان هناك اختلاف ذو دلالة إحصائية في جميع الدرجات في كل من اكتساب القواعد النحوية قبل الاختبار وبعد الاختبار (باللغة الإنجليزية) بعد أن تم تدريسها وفقاً لاستراتيجية الخرائط الذهنية.

الكلمات المفتاحية: استراتيجية الخريطة الذهنية، اكتساب قواعد اللغة الإنجليزية.

Introduction

The English language is a major element that plays the most important role in communication. Therefore, teachers' methods in teaching English language in very important to improve students' ability to use acquired language in communication. So, it has been observed that English language teachers often face a great challenge in empowering learners of the English language to understand, acquire and communicate ideas naturally and meaningfully. When English language teachers try to overcome this challenge, they need to implement new teaching methods and strategies in order to achieve their teaching goals.

Moreover, the researcher noticed that there are international and local orientations towards the use of innovative teaching strategies which convert the students from a recipient of information to an active participants in the educational program (Al-Ali,2020:1443)

Although several efforts have been directed towards the successful application of different methods in English language teaching, there are still many obstacles that face teachers in language classes. Because of that, we need to change the educational process, or else there will be barriers teachers overcome in the future. In order that, there is a need to use adaptable, creative and powerful approaches in teaching and learning the English language.

To deal with this problem, mind maps can be used in teaching the English language, especially grammar because it is an essential foundation in teaching and learning the English language. On the other hand, there is limited information can be expressed without grammar rules. So, in the process of English language teaching in its four skills (listening, speaking, reading, and writing) teacher must teach the students English grammar first. This leads learners to express their ideas inaccurately. In this case mind maps can help students to express ratified thoughts to use most abilities of the brain. Mind maps are regarded as an effective method in students' understanding and retention of grammar rules which leads to deducting grammar information and then improving grammar learning.

The Problem

English teachers often face difficulties in conveying the rules of the English language to the minds of students and how to apply these rules when speaking or writing in English. These difficulties are as noted by the researcher fall under

several names, including lack of experience, students' expectations, negative perceptions of grammar teaching, lack of facilities and preparing grammar lessons.

Aims of the Study

The current study aims to explore the effect of using mind maps in acquiring English grammar for students in the second stage of the College of Administration and Economics.

The Hypothesis

In order to achieve the aim of the study, the current study attempts to test the following hypothesis:

“There is no statistically significant difference in the mean scores between the pre-test (before teaching students according to the mind maps strategy) and the post-test (after teaching students according to the mind maps strategy) in the acquisition of English grammar”.

Scope of the Study

The current study is limited to the second-year students in the Business Administration Department/College of Administration and Economics/ University of Mosul, during the first semester of the academic year (2021-2022).

Significance of the Study

Recently, many methods and strategies have appeared to help teachers in their task of teaching English grammar. One of these strategies was mind mapping which shortened the effort on the teacher and student alike by drawing a mental picture of the rule and how to apply it in the language. Accordingly, it is necessary to provide statistical evidence indicating the effectiveness of using this strategy in acquiring language grammar of learners.

Definition of Basic Terms

1. Mind Maps

- a. According to Zhao (2003:80) mind maps are “a pedagogic technique that supports a constructivist learning theory, especially in an environmental science class”.

- b. Budd (2004:36) states that “ a mind map is an outline in which the major categories radiate from a central image and lesser categories are portrayed as branches of larger branches”.

The operative definition of mind maps is:

“ It is a mental draw of English grammar concepts in a way that helps the learner to understand the relation between them and their application in reality”.

2. Acquisition

- a. Darko (2016:9) states that acquisition is “the learning of any language in addition to the mother tongue”.
- b. According to Robbins (2007:49) “acquisition is an integral part of the unity of all language”.

The operative definition of acquisition is:

“The process by which students acquire the capacity to perceive and comprehend English language, as well as to produce and use words and sentences to communicate”.

3. English Grammar:

- a. Ogu et.al. (2016:3) states that grammar is “the rules guiding the formation of sentences in a language”.
- b. According to Wilcox (2004:23) “Grammar is a system of rules which allows the users of the language to create meaning, by building both meaningful words and larger constructions of sentences”.

The operative definition of English grammar:

“Is the way in which meanings are encoded into wordings in English language which includes the structure of words, phrases, clauses, sentences and the whole text”.

Previous Studies

- 1- The Buran and Filyukov (2015) study aims to identify “the mind mapping technology in language learning”. For this purpose, the researcher overviews the

previous studies, concerning the problem and describes the implementation of mind-mapping techniques in the learning process. The result of this study showed that mind maps help students to solve problems, brainstorm creative ideas, remember new vocabulary, take notes, enhance their reading skills, organize the tasks and prepare presentations. This study concludes that the mind mapping technique is considered to be an up-to-date, creative, useful and available tool for learners, educators and researchers.

2- Wilson *et al.* (2016) study aims to identify “A preliminary study of the use of mind mapping as a visual-learning strategy in general education science classes for Arabic speakers in the United Arab Emirates”. In order to achieve the research aims, a preliminary results based on a group of (60) students, from ongoing active research, suggest that this method is quite useful in helping pupils to summarize the lengthy lesson and increase student engagement and communication amongst peers, which helps them to reinforce scientific theories and concepts. Students seem more responsive and motivated as they positively contribute to their learning environment, which is believed can only further strengthen their external locus of control. The results satisfy the paucity in the literature on effective pedagogical strategies of Arabic-English language learners in science.

3- The study of Mirza (2016) aims to investigate “the use of mind mapping strategy to improve students’ speaking ability”. To obtain the data, the researcher applied experimental research by giving students a pre-test and post-test. Moreover, the interview was made and revealed that students perceive mind-mapping strategy helps them to generate ideas in speaking. Overall findings, the mind-mapping strategy improves students' speaking ability. The writer concludes that the mind-mapping strategy is one of the strategies which can be used in order to improve the student’s speaking ability.

The Theoretical Survey

1- Mind Maps

Mind maps were first applied to foreign language in the 90s’ as an aid to active prior knowledge on certain topic and help learners to organize and recall items of vocabulary and rules of grammar.(Casco:2009,2)

In mind mapping there is usually a single concept, which around which ideas, words and images are added. Major ideas are directly connected to the central concept and supporting branched ideas from the major ideas radially from this central them. (Eppler:2006,203)

Moreover, Zhao emphasized that mind mapping is a pedagogic technique that supports a constructivist learning theory. (Zhao:2003,79)

Adding to that, it was found that both teachers and students enjoyed when they using mind maps. The teacher believed that using mind maps fostered student motivation in wanting to learn science. (Wilson, et.al.:2016,35)

On the other hand, Jewels and Albon (2012) reported on some instructional techniques they thought necessary to successfully instruct Arabic learners. Based on the information presented on the benefits of using mapping techniques, mind mapping seems ideal in fulfilling these needs of Arabic learners. Mind maps are concise and would therefore provide a summary of the lesson for our English language learning, in which simple English grammar can be incorporated. The ease with which these summaries can be done would facilitate repetition of key ideas and concepts, which have a long with the visual appeal of the maps, may help to assist the students which memorization and recall. (Jewels and Albon: 2012,12)

Adding to that, Casco (2009) stated that mind map is a graphic tool which contains a central key word or image and secondary ideas that radiate from the central idea as branches. The key idea crystallizes the subject of attention while the branches represent the connections established with the central idea, forming a connected nodal structure. (Casco;2009,1)

In the same context, mind maps were developed by the British psychologist Tony Buzan in the late 60's in an attempt to help students take notes effectively. According to Buzan, a mind map is an associative network of words and images which harnesses the full range of cortical skills: word, image, number, logic, rhythm, color and spatial awareness in single, uniquely powerful technique. And he claims that a mind map can unleash the mind's potential because it mirrors the associative functioning of the brain which is radiate and holistic. (Buzan and Buzan:1996, 81)

Furthermore, it is a common belief that if students can draw diagrams to show complex relationships of concept by critically analyzing the ideas that make up this concept then, they will be better able to understand and remember them.

So, mind mapping is also suitable for visually representative data in an open following format that supports the natural thought process and creative of individuals. (Wilson, et.al., 2016, 33)

And this would be extremely beneficial for implementation in our EFL classrooms. It was found that mind maps are creative ways for students to engage in a unique method of learning that can expand memory recall of key topics and help to create a new environment for processing information. (Spencer, Anderson, and Ellis: 2013, 291)

2. Characteristics of Mind Mapping

Mind mapping has four main characteristics according to Budd (2003) as follows:

- 1- Each mind map has a central picture as a starting point which contains the main idea or concept. This is due to the picture can help the brain generate new ideas easily.
- 2- The ideas of the main map released from the central topic or image branches with sub-topics connected.
- 3- The final structure of the mind map becomes a hierarchy of linked ideas. Besides, when that is done, the mind creates an image to symbolize the structure.
- 4- Each branch has keywords or colourful pictures connected.

3. Advantages of Mind Map:

Generally, the mind mapping method seems to be a good graphical tool to employ, as its general features can be considered synonymous with what has been defined as good teaching practices (Chickering & Gamson 1999:79). As the following:

1. Encourages contact between students and faculty.
2. Identifies gaps in student understanding.
3. Facilitates prompt feedback.
4. Respect diverse ways of thinking.
5. Utilizes an active learning technique.

Moreover, Buran & Filyukov (2015:217) added the following advantages:

- 1- A radiant, hierarchical structure of mind maps and triggers helps to grasp a lot of information.
- 2- Keeping up-to-date and enhancing such skills as brainstorming and making presentations.
- 3- Stimulating creative thinking and generating new ideas.
- 4- Connecting all the details together.
- 5- Visualizing and classifying the information.
- 6- Analyzing and collecting data
- 7- Exchanging the information.
- 8- Understanding the learning material.
- 9- Using information for collaborative work.

Adding to that, Mirza (2016:20) concluded that mind mapping is an effective strategy to use the power of both sides of the human brain to encourage studying, problem-solving, critical thinking, and memory recall.

4-Implementation of Mind Mapping in English Grammar Teaching

According to the aim of the research, implying a description of a meaningful, powerful and effective method which is used to encourage EFL students to use mind-mapping techniques in the language class, the researcher formulated a set of pedagogical objectives as follows:

- 1- Introducing mind-mapping techniques to EFL students.
- 2- Creating mind maps and applying mind mapping techniques in the learning process.
- 3- Investigating the effectiveness of mind maps in teaching and learning English by using tests and exams.
- 4- Overviewing the advantages of applying mind mapping techniques in English language teaching and learning.

The researcher tried to follow Buzan's (1996) recommendations and used a central idea, more than three colours, graphic images, different sizes of font, the thickness of the lines and the scale of the graphs to make a clear mind map.

And provide students with coloured papers, books, and everything they needed to create in the language class.

On the other side, the use of mind maps is very useful for students to accomplish grammar knowledge integration. The mind-map technique can guide students to develop their habit of thinking effectively and improve their knowledge content understanding (Wang:2019: 992).

Furthermore, the mind map is popularized by Buzan who claims that it is an enormous superior note-taking method. As well as people can develop their abilities to memory, brainstorming, learning and creativity. According to Zhao, teachers can understand whether students are the subject if they can build the appropriate structure of new information by checking their mind maps. Mind mapping is a note-taking, organizational technique, which allows individuals to arrange facts and thoughts in a map format containing a central image, main themes radiating from the central image, branches with key images, and branches forming a connected model structure (Buzan:1999: 33). Adding to that, mind map helps students absorb new information, think and develop their conceptual schema. Mind mapping is a technology to enhances creativity and promotes personal learning (Mentol & Jones:1999: 34).

Acquisition and the Theory of Acquisition Language:

Education is an organized process by exercising teacher interactively with the students to provide them with a number of skills and information, and the learning is a modification and change the learner's behavior relative by training that lead them to acquiring experience and skills. Moreover, language acquisition is considered as a process of developing the learner's linguistic ability, which is regarded an unconscious process (Nasira:2020: 12)

The acquisition of how learners acquire language has always been an important issue for early psycholinguistics and for psycholinguistics nowadays.(Mato:2016:3) Therefore, several theories have emerged over the last fifty years to study and analyze the process of language acquisition. They can be summarized as follows(Aljoundi:2014:4):

- 1- The behaviorist theory have been put forward by Skinner, which states that children imitate adults. And their utterances are reinforced when they get what they want or are praised.
- 2- The innateness theory have been put forward by Chomsky, which states that a child's brain contains special language learning mechanisms at brain.
- 3- The cognitive theory have been put forward by Piaget, which states that language is just one aspect of a child's overall intellectual development.
- 4- The interaction theory have been put forward by Bruner, which emphasizes the interaction between children and their care-givers.

The Procedures

1. The Experimental Design

The experimental design represents the strategy which is set by the researcher herself to collect unnecessary data and control the factors or variables which may affect this data and finally carry out the suitable analysis to test the hypothesis of the research within a comprehensive plan. The researcher should choose a suitable experimental design which provides valid conclusions about the relationships between both independent and dependent variables (Oda & Malkawi, 1992:122).

The researcher adopted the experimental design known as a co-equivalent group due to its appropriateness for the aims of the research.

In the current research, the experimental group was taught using the mind mapping strategy and the control group was taught by the current method (the traditional method) as shown in Table (1) below:

Table (1): The Experimental Design

Groups	Independent Variable	Dependent Variable
Experimental	Mind Mapping	Achievement Test in English
Control	The Traditional Method	

2. The Population

The population of the present research consisted of second-year students in the Business Administration Department at the College of Administration and Economics/University of Mosul during the second semester of the academic year (2021/2022).

3. The Sample

The research has intentionally selected (82) students in the second year in the Business Administration Department/College of Administration and Economics/University of Mosul.

4. Tools of the Research

An Achievement test has been prepared by the researcher. The test was suitable for the curriculum of the second year in business administration in English. The items were designed based on (Fill the blanks with the correct answer) because they can be more effectively measured. The researcher presented the test in its original design.

5. Validity

Validity is the extent to which a measure adequately represents the underlying construct that it is supposed to measure. The term construct refers to the skill, and knowledge, that the researcher is investigating (Drost, 2011:120).

In the present research, the research has used face validity. Hence, the final test of the researcher was given to a group of qualified experts to check its validity. *The experts approved the items of the test and put forward assumed suggestions to improve them. The total number of the final test items was (20).

6. Reliability

Reliability is the extent to which measurements are repeatable when different people perform the measurements on different occasions, under different conditions, supposedly with alternative instruments which measure the construct or skill. It is also defined "as the degree to which the measure of a construct is consistent or dependable" (Drost:2011,119).

Accordingly, the achievement test had been given to (48) second-year students. By using the split-half reliability method and a Person Correlation Coefficient with Spearman Broun Prophecy Formula, the total achievement test scored a correlation coefficient of (0.81).

7. The Experiment

The experiment started on 1st March, 2022 by applying a pre-test on the student. Then the teacher teaches students of business Administration in English by focusing on grammar through a mind-mapping strategy.

The experiment lasted five weeks on 5th April, 2022 the final achievement test (post-test) was applied to the student.

8. The Statistical Means

1. T-test of the two-tailed types for independent samples to test the difference between the results of pre-test and post-testing achievement in English (Glass & Stanly, 1970: 295).
2. A Person's formula correlation to compute the reliability of the test, with Spearman Broun's prophecy formula (Ferguson, 1981: 113, 438).

Results and Discussions

To verify the null hypothesis of the research, the researchers found out the mean scores, and standard deviation for the correlated group in their achievement in English grammar and applied T-test to the sample as shown in a Table (2).

Table (2): Results of T-Test for the Correlated Group on their Achievement in English Grammar Test

No	Pre-test	Post-test	Difference	S.D	T-calculate d value	T-tabulated value	The significance level of 0.05
82	7.4384	8.3288	0.8904	1.6256	3.193	1.66	There is a significant difference in the mean scores between the pre-test and the post-test in the achievement of English grammar

It is obvious from Table (2) that the calculated (T) value is (3.193) which is higher than the tabulated (T) value which is (1.66) at (0.05) level of significance under (81) degrees freedom.

This means that there is a statistically significant difference between the means of the correlated group. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

These results are due to the fact that the mind mapping strategy is an effective method in teaching and learning English grammar it encourages students to improve their English grammar and use it efficiently.

Conclusions

In the light of the results obtained, the following conclusions can be drawn:

- 1- The effectiveness of the mind mapping strategy in the acquisition of English grammar.
- 2- The students show an obvious development in English grammar.
- 3- The use of mind mapping makes English lessons easier to understand.

Recommendations:

The researcher would like to put forward the following recommendations:

- 1- It is necessary for English language teachers to use a mind map strategy at the university level.
- 2- The preparation and training units in the Directorate of Education should train teachers of English to use the mind map strategy.
- 3- Introducing the mind map strategy in the vocabulary of English teaching methods at university colleges.

Suggestions:

The researcher suggests the following future studies to complete the present research:

- 1- The efficiency of using a mind map in the achievement and retention of knowledge in the English language at the University level.
- 2- The impact of using a mind map in developing contemplative thinking in the English language at the University level.

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