The Effectiveness of Semantic mapping instructions in Promoting Iraqi Students' Vocabulary Achievements

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This study aims to investigate whether implementing semantic mapping instructionss of new English vocabulary for Al-Imam Al-Kadhum University College students is advantageous. To accomplish the purpose of this research, the study intends to provide answers to two questions: How does the use of semantic mapping in teaching vocabulary affect EFL College first-year students' learning? Which types of semantic maps are effective in teaching vocabulary based-reading material? The participants were eighty students divided into two groups: a control and experimental group. The control group was given a traditional teaching of vocabulary while the experimental group was taught through using five different types of the semantic mapping strategy, namely a concept categories map; hierarchical organisation map; compare-contrast map; definition, description, example map; and fishbone map. Both groups were tested before and after the experiment. In addition, the experimental group was given a questionnaire to evaluate the five types of semantic mapping strategy. The results of the study indicated that semantic mapping strategies had a positive impact on students' vocabulary performance and reading. The results of the present study reveal that using semantic mapping strategies has a powerful impact and students get engaged with those strategies and learn vocabulary better. Moreover, concept categories maps were regarded to be the best type of semantic mapping strategies and were preferred by students, followed by the compare-contrast map. Finally, the questionnaire findings reflected students' positive attitudes towards using semantic mapping strategies with all their different types.

Key words: *EFL Iraqi students, semantic mapping, English vocabulary.*

Introduction

This paper attempts to explore whether applying semantic mapping strategies to teach new vocabulary for preparatory-year EFL Iraqi college students is effective or not. Vocabulary teaching and learning need to be studied and investigated to determine their significance in language acquisition. Vocabulary is the backbone of language that needs to be studied sufficiently. For example, Gelzheiser et al. (2018, p. 140) confirms that frequency selection has a strong impact on students' performance in vocabulary knowledge in that they increase their fluency and their communication with others becomes better, since they learn the most frequently used words. This criterion, frequency list selection, helps determine the words that should be included within certain academic texts in teaching (i.e. reading comprehension passages). Another study was done by Hiebert and Kamil on the importance and usefulness of vocabulary using different standards (2005, p. 12). Teaching and learning vocabulary need to be highly connected with the study of memory. Memory contains all information, in this exists vocabulary repertoire. In this study, the focus will be largely on vocabulary and semantic mapping. To do so, teachers and practitioners in the field of English language teaching need to concentrate more on finding new techniques or strategies that ensure and improve the way students learn vocabulary. Of these strategies is the use of semantic mapping strategies.

Semantic mapping and its types contribute greatly to the educational system for both teachers and their students. Its strategies influence students' performance and increase their motivation in the learning process. Semantic mapping reconstructs students' self-confidence and makes them stimulated in language acquisition.

Statement of the Problem

Vocabulary teaching and learning are an impediment for Iraqi EFL learners. According to many practitioners and teachers of English, Iraqi students have come across problematic issues in their effort to learn new words. This contemporary study is conducted in an endeavour to unravel EFL Iraqi students' difficulties by applying semantic mapping strategies as creative strategies that may promote students' vocabulary.

Significance of the Study

This study takes an important position for the following reasons:
• The results will supplement the philosophy of teaching vocabulary through semantic mapping,
• Additionally, the results can help the teachers of English facilitate students' learning of vocabulary,

• Other teachers and researchers or practitioners and theorisers can adopt the findings of the current study in their research and get a better and deeper understanding of the subject being looked into.

Objectives of the Study

The purposes assumed are
• To investigate whether semantic maps can help students to acquire vocabulary effectively or not.
• To pinpoint teachers' perceptions about teaching vocabulary through semantic maps.

Questions of the Study

The following questions have been suggested:
• Is teaching vocabulary to Iraqi college students via semantic mapping strategies more effective than using the traditional method?
• Is there a direct relationship between semantic mapping and vocabulary learning?

Importance of Vocabulary

In our life, we cannot communicate until we have words to talk to people or the community we live in. Generally speaking, vocabulary occupies an essential role in both language learning and language teaching. Great efforts have been made and great research has been done and written about regarding the significance vocabulary has on learners' minds. It provides him/her with sufficient knowledge to communicate effectively with peers (in specific) and the community (in general). No one can communicate or convey a message, needs, desires, intentions or thoughts without using vocabulary. The need for research into such a vital part of language is very necessary. Vocabulary helps students to comprehend and produce language. No one can utter or communicate well without having a sufficient vocabulary repertoire in memory. Vocabulary occupies a vital role in both language learning and language teaching and a special interest should be shed on the strategies that best serve students when learning vocabulary.

Nowadays, the study and research of vocabulary focuses on social media language learning. As Piasecka et al. (2014: v) and Kiaer (2019, p. 9) agree with that notion that vocabulary plays an essential part in social media applications such as Facebook and Twitter.

Kinds of Vocabulary

Vocabulary can be classified in different ways. According to Nation (2001, p. 11), vocabulary can be divided into four classes:

a. High frequency words
Generally speaking, people usually communicate with each other using the most frequent words. Highly frequent words are words that are used mostly in everyday life situations. They are very useful in daily conversation and they are repeatable.

b. Low frequency words
There are certain words in a language that appear in specific contexts. These words are said to be limited to a particular level of people. Words of low frequency shape cultural and social differences among people.

c. Academic words
Academic words can be seen much in texts such as textbooks, books, scientific journals and workshop terms.

d. Technical words
Sometimes words are only known by those who take on one discipline or profession in any field. They even invent words of their own to suit what serves them.

In 2013, Nation reconstructed the classifications by adding the mid-frequency word level (Webb, 2019, p. 297). Hatch and Brown divide vocabulary into two kinds based on their use (Barcroft, 2015, p. 50):

a. Receptive vocabulary
Receptive words are used in passive skills: listening and reading. For example, when reading a text, the reader should be supplied with sufficient amounts of these words.

b. Productive vocabulary
Productive words are those words that learners use in speaking and writing, when speaking or communicating in a conversation or when writing an essay on a certain topic. Those words are used in active skills (speaking and writing), since the learner is sometimes required to produce a language in a class.
According to word form, vocabulary can be classified into two main categories: general vocabulary and specialised vocabulary. General vocabulary has two sorts: low frequency and high frequency. Specialised vocabulary is either technical vocabulary, such as terminology words, or sub-technical vocabulary, such as academic vocabulary (Thoma, 2011, p. 105).

What does it mean to know a word?

Surkamp and Viebrock (2018, p. 140) comment that there are three main aspects one can gain when practicing vocabulary:

1. Meaning: for example, knowing the core meaning or additional meaning of a word occurring within a certain context, such as 'lose', the opposite of 'win'.

2. Form: Here, it means knowing about pronunciation, spelling, word stress, morphology and colligation.

3. Use: This refers to different aspects students can acquire in the learning process, such as collocation, register, semantic range, context and constraints of use. For example, losing one's mind, lose control, lose weight and lost in translation.

Deep Vocabulary Knowledge

McCarthy (1990, as cited in Ibrahim, 2017, p. 184) defines vocabulary as 'a word in a specific language or freestanding items of language that have meaning'. Vocabulary is an indispensable part of language. It would be unmanageable to acquire a language without vocabulary. The significant role that this part plays has been highlighted in all the many methods of language teaching. Barcroft (2004, as cited in Nilforoushan1, 2012, p. 165) notes that semantic mapping can be used as a tool for finding the conceptual networking between vocabulary items. Vocabulary, as Brown (2001) states, 'forms the building block of any language'. Vocabulary is 'a core component of language proficiency and provides much of the basis for how well learners speak, listen and write' (Richards and Renandya, 2002, p. 255). According to Nation (2013, as cited in Loranc-Paszylk, 2019, p. 57), Saeidi and Atmani (2011, p. 51), teaching vocabulary has long been neglected and undervalued in language teaching.

Semantic Mapping and Vocabulary

Coghlan and Brydon-Miller (2014, p. 115) recommend that semantic mapping should be one of the techniques used for creating an informational organisation environment. It helps to give connected structure or order. It helps students to see the relationship among words, and it shows the various ways that vocabulary can be organised and categorised. Flood et al. (2008, p. 423) and Barclay (2011, p. 432) add that a semantic map or web is a graphic demonstration of sets of vocabulary and their relationship to each other.

Roe et al. (2014, p. 215) elucidate that a semantic map strategy is one type of graphic organiser. It helps students visually organise and graphically show the relationship between one piece of information and another. This strategy has been identified by researchers as an excellent technique for increasing the retention of vocabulary; students learn better when they get exposed to these strategies of semantic mapping. Semantic mapping can also be exploited to stimulate prior knowledge and to present key words in a better manner. Post-reading activities, words, categories, and new concepts can be added to the original maps to enhance understanding. Semantic mapping is a procedure for creating visual presentations of sorts and their affiliations. The aim of such an approach is to make students find similar paths or ways in a schemata through which they can connect the new words being taught or words learned already with a previous experience or schemata in their minds. Semantic maps, as Jonassen (1993, p. 98) indicates, are very useful when students get familiarised with them. He adds that such strategies of semantic mapping provide students with better processes of retrieving vocabulary items.

As discussed above, semantic mapping falls under the wide-ranging classification of graphic organisers and is used in various fields of study in order to aid students to comprehend associations and make conceptions about larger issues. The foundations of semantic mapping are the relationships among its origins (here, the words). As the relationships among words are recognised, students recall them more effortlessly. According to Fan (2000, p. 115), connecting or finding conceptual mapping by grouping words with each other will reconstruct better vocabulary learning.

It is not agreed upon among researchers whether the adoption of semantic mapping in language learning has a powerful impact on students' ability to remember words or not. Hence, it is controversial. Some claim that cross link or learning many words at a time could impede the process of the acquisition of vocabulary learning on the part of students (Erten and Tekin, 2008, p. 408; Bakker and Haspelmath 2013, p. 130).

In few words, it is possible to say that semantic maps (or graphic organisers) are maps or webs of words. The aim of producing a map is to visually exhibit the meaning-based networks or associations between a word or phrase and a set of related words or thoughts. Semantic maps support students, mainly struggling students and those with disabilities, to detect, comprehend and remember the meaning of words. The most essential and fundamental reason for the usefulness of semantic mapping could belong to its cognitive characteristic.

Semantic mapping strategies
Balajthy and Lipa-Wade (2003, p. 101) approve the claim that the strategies of semantic mapping are purposed to develop learning and teaching vocabulary by helping students set up

vocabulary in an interrelated network. This simplifies learning related words and draws associations across the words. The following semantic maps are adopted by the researchers because they are very effective and fruitful strategies to improve students' retrieval of lexical items.

1- Concept categories map

Here, a student reconstructs a connection in their mind between a new word and a word they already know. The words have some degree of similarity. This strategy facilitates the process of remembering words easily.

2- Hierarchical organisation map

In this strategy, a student connects a new word with words he already learned. A relative connection is available between them but they are not similar. The student can create a track of remembering in finding the meaning of the new word by forming a connection.

3- Compare-contrast map

In this strategy of semantic mapping, new words are compared and contrasted with each other in order to be best understood and learned by students. To make such a comparison, students need to remember words better.

4- Definition-description-example map

In this type of semantic mapping, a term or concepts is presented in the form of a definition or a description.

5- Fishbone map

This type of semantic map links new words with their causes. It takes the shape of fish in its design.

Methodology

The Participants

The method or design followed in this study is a quantitative method. The participants of the present study cover all the first-year students of Al-Kadhum University College, College of Arts, Department of English, Missan, Iraq, for the academic year of 2018-2019. The college has two classes, A and B, with 41 students in the first and 42 students in the second. Class A was randomly chosen to be the experimental group (henceforth EG) and class B as the control group (henceforth CG). All random choices were based on drawing lots. One student from section A and two from section B were excluded from the experiment because they were repeaters in this grade. The repeaters, however, were kept in their classes during the

period of the experiment, but their performances on the post-tests were neglected. Thus, the final number of the sample subjects was 80 students (each group contains 40 students).

Materials

The materials used in this study were 6 units, each including a reading passage and some vocabulary exercises and activities. The reading passages were taken from the textbook 'English Vocabulary in Use by McCarthy and O'Dell (2002), advanced level'. In order to ensure that words in the materials were new for the experimental group, a list of 300 words was presented to the experimental group and they were asked to write the meaning of the words they know. By comparing their answers, 250 words, which were new for all the students, were selected to prepare the materials and semantic maps.

Procedures

The whole study consisted of twelve weeks of presenting the new words. The starting lesson took 40 minutes. In the first lecture of the treatment, the students were given 30 new words in a condition in which they did not know any relationship among those words presented. These words were taken from two general topics, weather and climate. Later on, a test was introduced in the next lecture. This measured the students' previous lecture contents. While in the successive lectures, the researcher introduced another 30 new words using semantic mapping strategies that students found motivating and interesting in vocabulary learning, since such adopted strategies simplify the process of vocabulary retention both in communication and tests (detailed information on which is provided in the 'materials' section above). The next session included a test on those words. It is worth mentioning that the intervals between the presentation session and exam session in both phases were the same, and the same procedures were used to define or illustrate the meaning of the new words.

These procedures included 1) clarifying the meaning of the unknown words in English (usually in the form of a dictionary definition); 2) bringing various examples and illustrating the words in different sentences; 3) using gestures, facial expressions, drawings and sometimes realia (if possible); and 4) providing the L1 equivalent as the last resort in cases when the learner still seemed unclear about the meaning. As for the assessment part, in the next session, the students were asked to write as many words as they remembered with their meanings on a piece of paper. The time allocated for the test was 30 minutes (a little more than 1 minute for each word to be remembered and defined). Spelling errors were not generally evaluated, except in the cases where they would make it difficult to infer what word was meant or where a totally different word was made up due to the spelling error. The definitions were scored in a similar, not strict manner; the learner would get the full mark for their definitions as long as they could show an understanding of the word. They were allowed to use formal dictionary definitions, examples, L1 equivalents and even drawings. At the end

of the second test, the learners were asked to express their opinions of the maps they had worked with.

Results and Discussion

After scoring the tests, the following results were obtained. The learners' scores on the test related to the session without semantic mapping were 34 out of 60 and their score on the other test (of the session with semantic mapping) was 55 out of 60.

Table 1
The students' marks with and without using semantic mapping

	Test 1 (without semantic mapping strategies)	Test 2 (with semantic mapping strategies)
No. of the remembered words and definitions	34	55
No. of the missed words or definitions	21	8

In addition to the quantitative outcomes provided above, there was a qualitative form of confirmation collected by the researchers for the effectiveness of semantic mapping in this study. The students, after being asked about the effectiveness of these strategies on their retention, offered a preference to semantic mapping. 'I got the image of the map's connections in my mind when I wanted to remember the words. It helped me recall easily,' said one. He also pointed to the desirability of the maps and stated progressive thoughts about being entertaining in association with the other technique.

The results of this study indicate that the application of semantic mapping instructions upgraded the students' capacities to recall vocabulary items and their definitions better. This is in line with many other similar studies reported in literature, such as Morin and Goebel (2001), which confirms the effectiveness of semantic mapping as a strategy that helps beginner and intermediate learners recall words better.

Table 2

Descriptive statistics of the two groups regarding vocabulary achievement post-test

Group Type	No.	Mean	Standard Deviation	DF	t-value		Level of Significance
					Calculated	Tabulated	
EG	40	57.84	13.83	98	4.618	1.987	0.05
CG	40	34.25	12.37				

The table above shows the students' performance in vocabulary achievement for both groups, the experimental group and the control group. According to the results in table 2, the experimental group outperformed the other group because of the use of semantic mapping instructions. Such strategies for learning new vocabulary have great value for both students and teachers. The students in the control group were taught using the traditional method prescribed in their textbook. Hence, there is a statistical difference in vocabulary achievement for the experimental group belonging to the influential use of semantic map strategies.

Conclusion

In summation, the aims of existing research authorise the statement that semantic mapping strategy instruction has a substantial influence on the vocabulary learning of college students. The findings of the present study have some implications for students and teachers and syllabus designers. Learning vocabulary through semantic mapping strategies would be more amusing and expressive for students. This is because it is distinct from the monotonous and tedious way of finding words in a dictionary. The findings may inspire teachers who still have faith in in teacher-centeredness in language teaching to alter their perspectives in favour of more learner-centred approaches.

Besides, the goal of this research was to focus also on how syllabus designers and textbook writers can symbolise sections related to semantic maps in the resources and materials they improve. In this manner, they can present abundant new words in a map and develop both the memory and comprehension of these words. The study shows that semantic mapping can serve as a supportive technique in these circumstances and help teachers use groups of connected words with greater confidence.

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