Developing Vocabulary for Foreigners Using Mindmapping

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Abstract
The pivotal beginning for teaching a language to foreigners is improving and expanding on their vocabulary. This builds up a resource for the learners to further develop their communication skills as well as easily approach to indigenous culture. This case study explains the importance of increasing vocabulary for foreigners learning the second language; how to build up and apply a mind mapping technique to develop the vocabulary based on the associative and imaginary relationship and connect presupposed knowledge of the learners. A quantitative data analysis approach was incorporated using questionnaires and by examining sample tests of 15 Vietnamese students learning English in Hanoi National University of Education. Data was collected from students making a survey and tests during a 3-month-course of studying the second language. The result indicates that building vocabulary with mindmaps helps the learners enrich their vocabulary quickly and scientifically. The collection of words will become organized and systematic instead of a messy and random gathering. Thus, their capability to use their vocabulary to read, listen, speak and write will be dramatically enhanced. Increasing vocabulary for foreigners will be an initial step for developing their communication skills and understanding of local culture. The findings will contribute to teaching field and bring the learners of a second language closer to the linguistic empathy.

Keywords: vocabulary development, mindmap

Introduction

The role of vocabulary and teaching strategies for vocabulary development

The study of teaching and vocabulary development for foreign language learners is not a new issue in both applied linguistics and teaching methods. For a long time, researchers have confirmed the role and importance of vocabulary development in learning a language and adopting a culture. According to Steven Stahl (2005), “Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world.” and teaching word meanings should be a way for students to define their world, to a more fine-grained description of the colors that surround us.

Vocabulary plays such an important role, or even a central role in English language arts teaching and it should be considered as the main key to learn English. It is a means to communicate with others and to express ideas, desires or emotion. Richard (2001) states that vocabulary is one of the most obvious components of language, and one of the first things applied linguistics turned their attention. In any communication, vocabulary makes sense to assess students' comprehension and mastery of essential words and phrases introduced during the course of a unit or lesson.

In terms of teaching, vocabulary development is an essential content that teachers need to prepare for students, which helps create an optimal learning method for them: both improve their vocabulary with direct and explicit instruction provided by teachers and develop their vocabulary at home by self-study. Having done that, the students came closer to the land of the second language and became familiar with the land.

Mindmapping and teaching strategies for vocabulary development with mind mapping

Mind mapping is a power graphic technique and tool that was initiated by Tony and Barry Buzan in the 1960s. Derived from the idea of realizing the way the human brain operates, the mind map harnesses the ability to associate, imagine and connect elements into a unified whole. That unified whole, therefore, is an organic network that is rooted as a keyword, an idea and is constantly expanding based on affiliation. Looking at a mind map, readers can identify the “spiritual face”, understand the connection in thought and analyze the association of the creator. Thereby, readers can assess some of the logical capacity, image and real-life experience... of that person.

Regarding teaching strategies for vocabulary development, semantic maps are supposed to be popular method which can be shown by mind maps. These semantic maps help students develop connections among words and increase learning of vocabulary words (Baumann et al., 2003; Heimlich and Pittleman, 1986). Mapping can enrich not only students’ word comprehension and good understanding but also their vocabulary, because through this way they may image and memorize many vocabularies in one time. For example, maps show words with the same topic; maps show words with the same prefix, etc... Students can actually know and remember many vocabularies but this way can help students to map and classify through the

issue given by instructors. They will find the words from the general words to the specific one.

The previous studies have highlighted the role of vocabulary in teaching foreign languages as well as identifying effective vocabulary teaching strategies. However, just few studies compare the difference between having and not having mind mapping in teaching. This work focuses on students' changes when learning vocabulary with mind mapping. In order to do that, the study will address these two following research questions:

Does mind mapping really make a difference in learning vocabulary?
What are the benefits of studying vocabulary with mind mapping?

Method of studying

Participants and context

Prior to the case study, we made a survey to find out the students' vocabulary learning. 88 students who are studying English in Hanoi National University of Education and Hanoi University are randomly selected to participate in the survey. Questions related to the understanding of mind mapping, the practice of teaching vocabulary and the desires as well as difficulties of students in the learning process.
After receving the survey result, a case study was conducted in a foreign language class of the Hanoi National University of Education. 15 participants (8 male and 7 female) are Vietnamese students who have graduated from the University and are continuing their second degree in English pedagogy. They are at the age of 22 to 26 and have studied English for at least 5 years since high school until they had their first degrees. Students' average level of English proficiency is quite good and meets the B1 level in the Common European Framework of Reference for Languages (CEFR). However, due to the different learning experiences, the language ability is markedly different. The development of vocabulary therefore manifests itself with a tendency: Students need to develop vocabulary intensive because they have a basic understanding of language.

Data collection

To ensure objectivity and honesty for this project, the researcher conducted three phases: (1) examine students' existing vocabulary; (2) organize students to take a vocabulary quiz; (3) instruct students to learn vocabulary with mind mapping, then count and process student test results to draw a comment. Two sources of data collection are questionnaires and tests.

On the questionnaire, we asked students 8 fixed questions with 4 Likert scale questions and 4 multiple choice questions; two additional questions for students who have learned vocabulary with mind mapping - a Likert scale question and a multiple choice question. As a minimum, students answer eight questions - four Likert questions, four multi-choice questions, and a maximum of ten questions with five questions per category.

About the test, the study is divided into two steps. The first step consists of 15 students taking the 10-minute test with a request to brainstorm and list all English words that the student knows as many as possible, without any prescriptive rules. The second step is that after collecting the results, teachers spend time instructing students to study vocabulary with mind maps. Every single week, students take a new test with the same requirement as the first test. Continue this activity repeatedly until each student has taken the 3 tests # 2, # 3 and # 4.

The whole process of experimentation can be summarized as follows:

Questionaires	Tests
• 8 fixed questions (4 Likert scale questions + 4 multi-choice questions) • 2 extra questions • 88 students	• Step 1 - Test #1: 10 minutes; listing words • Step 2 - Test #2,3,4: 10 minutes for each; mindmapping • 15 students

Results

Survey results

Table 1. *Question 1-4. Some common issue of teaching and learning with mindmaps*

No of Question	Content	Always (100%)	(75%)	Sometimes (50%)	(25%)	Never (0%)
1	Have you ever learnt any subjects with mindmap?	4 (4.5%)	9 (10.2%)	40 (45.5%)	10 (11.4%)	25 (28.4%)
2	Have you ever applied mindmap to your study?	5 (5.7%)	11 (12.5%)	41 (46.6%)	6 (6.8%)	25 (28.4%)
3	Does your teacher teach vocabolary using mindmap?	7 (8.0%)	21 (23.9%)	36 (40.9%)	17 (19.3%)	7 (8%)
4	Do you have demand on learning vocabulary using mindmap?	29 (33%)	12 (13.6%)	31 (35.2%)	11 (12.5%)	5 (5.7%)

The first two questions approach students' understanding of mind mapping through being taught and self-taught. According to the results obtained, not many students have been taught or taught themselves with mind maps on a regular basis. About half of students are sometimes taught with mind mapping (45.5%) or have applied mind mapping in their studies (46.6%). Meanwhile, a large number of students have never been exposed to mind mapping while studying (28.4%). That reflects exactly what is often happening in language classes in Vietnam: teachers usually use presenting and listing as mainstream to provide new words.

With further inference from the application of mind mapping into vocabulary teaching, the results in question 3 indicate that 8% of teachers use other methods to teach vocabulary rather than mind mapping. However, there are still a significant number of teachers who use mind mapping in vocabulary building: 31.9% of students said that the teacher always (8%) or regularly (23.9%) used; While 60.2% of teachers have sometimes (19.3%) or rarely (40.9%) used.

With regard to desires in the 4th question, it can be seen that nearly half of students want to learn vocabulary with mind mapping: 33% always want, 13.6% often want; while 47.7% of students sometimes want. Considering this result, it is easy to conclude the majority of students really want to study with a useful tool such as mind mapping.

For the teaching methodology, the survey focuses on some following issues:

Table 2. *Question 5. How does your teacher teach vocabulary?*

Teach vocabulary in a specific lesson in the textbook	55	62.5%
Teach vocabulary by topic chosen by the teachers	28	31.8%
Teach vocabulary randomly when encountering specific examples	22	25%
Do not teach vocabulary	1	1.1%

There are many different methods to teach vocabulary to students. With the methods we have listed based on previous studies, 62.5% of students said they learned vocabulary associated with a textbook lesson. Many students can not learn new vocabulary with the self-built subjects provided by teachers or learn by themselves with a specific example outside the book.

Table 3. *Question 6. How does your teacher interpret new words?*

Interpreting words by dictionary	8	9.1%
Interpretating words by putting words into context (sentences)	44	50%
Interpretating words by examples in practice	52	59.1%
Interpretating words by synonyms / antonyms	21	23.9%
Different ways	5	5.7%

Interpretation is important because understanding the meaning of words will provide students with the context of the passage and practice reading, listening, speaking and writing more effectively. According to the survey, the majority of words are interpreted to students in two ways: by practical example (put in a communication context) and by synonyms/antonyms (in terms of homogeneous - opposite of words). Also, these are two of the most common methods of teaching language.

Table 4. *Question 7. How do you learn vocabulary?*

Learn by recording words that are visible, heard, and readable	36	40.9%
Classroom instruction provided throughout the teaching session	39	44.3%
Learn more on websites, magazines, reference materials	27	30.7%
Self-study by topics which are associated with a certain lesson	13	14.8%
Do not learn vocabulary	0	0%

Self-study vocabulary of students has three main trends: The most common one is classrooms with teachers, with vocabulary provided by teachers (44.3%); followed by self-learning from the exposure in practice (40.9%) and finally self-study on websites, magazines and reference materials (30.7%).

Table 5. *Question 8. What are your difficulties in learning vocabulary?*

You are not interested in learning vocabulary	12	13.6%
Too many new words need to be learned but you do not have time to learn	18	20.5%
Too many new words to learn but you do not know how to memorize effectively	46	52.3%
You do not have good learning methods	28	31.8%
Other reasons	0	0%

It is because of such teaching and learning that many students find it difficult to learn vocabulary. More than half of students keep thinking that there are too many new words to learn without effective learning methods, resulting in unrememberable vocabulary (52.3%) or forgetfulness (31.8%). That is why a student can learn the language over a long period, but their vocabulary is limited, resulting in difficulties in mobilizing and using words in expression.

However, between aspirations and difficulties is still a certain distance. This can be seen from question 9 and 10, two extra questions for students who have ever done mindmapping to learn vocabulary. Of the 88 students enrolled in the survey, 25 had never been taught or learnt with mind maps, so only 63 students answered these two questions.

Table 6. *Question 9*

No of Question	Content	Always (100%)	(75%)	Sometimes (50%)	(25%)	Never (0%)
9	*Have you got any problem with learning vocabulary using mindmap?*	*5 (7.9%)*	*17 (27%)*	*30 (47.6%)*	*9 (14.3%)*	*2 (3.2%)*

Not many students feel that they have no difficulty with the mind map: only 3.2% never. Most students are still confused while studying. To find out why, we have had some random interviews and they have shared about some specific difficulties such as: They are not guided how to use, they do not know how to develop sub-branches in the map, and their ability to associate is not good, ...

Table 7. *Question 10. What have you achieved when learning vocabulary with mindmaps?*

Learn more new words	*44*	*69.9%*
Remember words and meanings better	*40*	*63.5%*
Broader subject-based words better	*44*	*69.9%*
Get the words' meaning better	*32*	*50.8%*
Self-study is more effective	*31*	*49.2%*

In addition to 25 students who do not have access to mind mapping in their studies, the other 63 students recognize the effects of learning vocabulary with mind mapping. In which, the three most obvious benefits are mind mapping helping students learn more words (50%), better memorization (45.5%), and expanded topic-based vocabulary (50%). This result more or less shows that students appreciate the role of mind mapping in learning.

Test results

Of the 88 students surveyed, only 15 students participated in the case study on vocabulary teaching with mind mapping. At each experimental stage, we obtained different results:

Table 8. *Statistics of test results*

	Test 1	**Test 2**	**Test 3**	**Test 4**
Best	**102**	**85**	**87**	**98**
Worst	**61**	**55**	**58**	**59**
Student#3	58	82	87	96
Student#4	83	79	76	80
Student#5	77	67	77	79
Student#6	61	67	67	72
Student#7	71	57	64	63
Student#8	72	73	82	89
Student#9	57	78	64	80
Student#10	66	84	79	91
Student#11	89	61	69	77
Student#12	93	58	69	66
Student#13	79	72	65	71
Student#14	91	70	84	79
Student#15	73	63	77	95
Total	1133	1051	1105	1195
Average	**75.5**	**70.1**	**73.7**	**79.7**

Discussion

As Yin (2009) states, case studies are "an empirical enquiry that investigates contemporary phenonenon in depth and within its real-life context, especially when the boundaries between phenomenon and contexts are not clearly evident" (p.14). The results of this study reflect a picture in which there are indications of differences in the accumulation and development of vocabulary of learners.

On learning vocabulary in a different method:

Students can immediately list a large number of words but many words appear randomly. It means that there is no connection, or it's hard to find the connection between the words if there are "spaces" between them. Therefore, the learner's search logic is not visible at all. Moreover, listed words are not in different fields. Most of words are familiar and often refer to the person or thing to identify people, things, phenomena, hobbies, habits, activities... which are close to everyday life of learners. A few words appearing frequently in the test are *family, father, mother, football, dog, cat, sleep, music, song, rain, sun, ect...* There are not many difficult words, less frequent or express multi-sectoral links. Those ideas lead us to the point that the students' ability to improve their vocabulary is not good. It does not focus on improvement, but focuses more on memorizing repetitive words, which are commonly used in life. In fact, there is a wide range in students' word knowledge between one and others. Hart & Risley (1995) state that as early as age 5, there is a

30-million-word exposure gap between "haves" and "have nots". The results of this gap are shown in students' learning, particularly reading comprehension because vocabulary instruction improves reading comprehension (Stahl). So if they don't achieve a wide range of words, it's hard to do well reading or daily-communicating.

About learning vocabulary with mind mapping, we made two comparisons:

Compare the results of test 2, 3, 4 with test 1:
The statistics show that the number of vocabularies listed by students is not different compared to the usual linear type. However, the words have rules and the relationship between the words can be recognized. This relationship is shown on the connections of the mind map branches. There are several common types of contacts:

(1) Direct contact between words, which are directly connected to each other by a continuous branch.
(2) Indirect contact between words, which are not connected, not directly connected by a continuous branch. It can be a disconnected connection in the same direction of deployment or as a disconnection between words belonging to different branches of association.
(3) Contact can be decoded based on the objective relationship between the phenomenon and things.
(4) Contacts can only be decoded based on finding the intent, the subjective experience of the creator.

Harmer (1991) divides vocabulary into two types including: (1) Active vocabulary refers to vocabulary that has been learned by students and expected to be used; (2) Passive vocabulary refers to word which the students will recognize when they meet them but which they will probably not be able to produce. Following this classification, as can be seen that both active and passive vocabulary appear in students' maps. We asked students to mark what words they hardly use in every test, and in three random samples (one from each of the three tests), these words take approximately 10 to 15 per cent for each. However, based on the branches of the mind map, readers easily recognize the search logic, evolving from the individual learner, regardless of the type of relationship. In addition, words seem to have their own place and meaning in the vocabulary system. They are not a single or random phenomenon. Besides, words are multi-disciplinary that belongs to many different vocabulary fields, not limited to only a few familiar fields as listed in test 1. In other words, the scope of the student's vocabulary is broader and richer.

Compare the results between tests 2, 3, 4 together:
The average amount of students increased steadily despite the fact that there were no real mutations. This can be explained by many different objective and subjective reasons such as study time with mind maps is not long enough when each test is only 1-2 weeks apart; the ability to work with the mind map as well as the self-learning capacity of each student is not equal... Beck et al. (2008) recommend that a dedicated teacher can teach about 300-400 words per year, but due to what students have in the tests, teachers are able to think of a larger number.

The system of words is maintained quite stable. Link between words or phrases is more robust and diverse. Vocabulary is list of words with their meaning (Hornby,

1974). Thus, the ability to memorize the words of a student is better when establishing or self-establishing this connection. It means that whenever learning a word, the student does not recognize it as a single phenomenon but rather as a point in an extended system. This point has its place and is also related to other points. Based on that, memorizing or expanding vocabulary can be an acquisition of a system.

The ability to mobilize vocabulary from many fields of meaning, many situations is enhanced. The word range has a significant increase, connecting familiar areas to life and even highly specialized areas. In foreign language arts instruction, it is useful to make a distinction between student's *receptive* vocabulary and *expressive* vocabulary. A student's receptive vocabulary includes words that the student may recognize or understand in a given situation but may not be able to use it in a practical situation. Meanwhile, a student's expressive vocabulary is the words that the student tend to use more confidently and appropriately. Bringing this classification into the mind maps shows that students tend to use more of the expressive words while restricting the receptive words. However, expanding the link and connection in the maps still requires receptive words appear. Therefore, the vocabulary has been developing.

Conclusions

Mindmapping can be not only an effective tool of learning but also a flexible mind-technique that helps students think and study more active. It develops students' vocabulary by broadening the ability of thinking and imagining. Thus, what students have is not limited to what is familiar or repititive.

Effective intentional vocabulary instructions contains teaching words-learning strategies that students can use independently (Graves, 2000). In this way, mindmapping does improve students' self-studying skill. Mapping method will help the students to construct and organize their ideas although the students still unclear with it. They will have a growing tendency to question themselves and formulate the theme visually. Therefore, they always find their own answer to the point how one word can connect to another and easily keep that in mind.

The result also indicates that building vocabulary with mindmaps helps the learners enrich their vocabulary quickly and scientifically. The collection of words will become organized and systematic collocations instead of a messy and random gathering. The findings hope to contribute to teaching field and bring the second language learners closer to the linguistic empathy.

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Appendix A: Student Survey

1. Have you ever leant any subjects with mindmap?

100%	75%	50%	25%	0%
Always		Sometimes		Never

2. Have you ever applied mindmap to your study?

100%	75%	50%	25%	0%
Always		Sometimes		Never

3. Does your teacher teach vocabolary using mindmap?

100%	75%	50%	25%	0%
Always		Sometimes		Never

4. Do you have demand on learning vocabulary using mindmap?

100%	75%	50%	25%	0%
Always		Sometimes		Never

5. How does your teacher teach vocabulary?

Teach vocabulary in a specific lesson in the textbook	
Teach vocabulary by topic chosen by the teachers	
Teach vocabulary randomly when encountering specific examples	
Do not teach vocabulary	

6. How does your teacher interpret new words?

Interpreting words by dictionary	
Interpretating words by putting words into context (sentences)	
Interpretating words by examples in practice	
Interpretating words by synonyms / antonyms	
Different ways	

7. How do you learn vocabulary?

Learn by recording words that are visible, heard, and readable	
Classroom instruction provided throughout the teaching session	
Learn more on websites, magazines, reference materials	
Self-study by topics which are associated with a certain lesson	
Do not learn vocabulary	

8. What are your difficulties in learning vocabulary?

You are not interested in learning vocabulary	
Too many new words need to be learned but you do not have time to learn	
Too many new words to learn but you do not know how to memorize effectively	
You do not have good learning methods	
Other reasons	

Please answer these following questions if you have ever learnt with mind maps!

9. Have you got any problem with learning vocabulary using mindmap?

100%	75%	50%	25%	0%
Always		Sometimes		Never

10. What have you achieved when learning vocabulary with mindmaps?

Learn more new words	44	50%
Remember words and meanings better	40	45.5%
Broader subject-based words better	44	50%
Get the words' meaning better	32	36.4%
Self-study is more effective	31	35.2%

Appendix B. Tests

Test 1. Listing all the English words as much as you can in 10 minutes.

Test 2/3/4. Using mindmapping to note down as many English words as possible.