Applying mind maps as a teaching and learning strategy for ESP

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Abstract

ESP teaching has become a growing trend and mainstream in Europe and advanced areas and regions in Asia. Though the importance of ESP teaching has come to be realized after long being ignored, the practice has not been quite satisfied (Dudley-Evans, 1998). In fact, ESP is still in the beginning period and many efforts have been made by researchers, educators, trainers and teachers in order to find better ways as well as initiatives to facilitate ESP teaching and learning. A question raised here is whether ESP is really difficult for students to grasp or the way we- as teachers- provide them with the knowledge of ESP is not interesting and effective enough to attract and get them close to the lessons. The problem has been actually voiced out in many researches about how to change the syllabi, how to integrate real-world materials in ESP classes, the roles of teachers and students, and many teaching and learning strategies as well. From the above situation, the study is designed to exploit possibilities of using Mind-map in ESP teaching and learning in the hope of improving the students' learning effectiveness.

Keywords: ESP, mind-map, teaching strategy, learning strategy

Introduction

Nowadays, English has been widely used in many areas such as politics, economics, tourism, telecommunication, culture, science, technology, so on. Since Vietnam carried out the open door policy towards the regional and global integration, the English language has become more and more important for people of all ages and careers nationwide. Therefore, there is great demand for teaching and learning English throughout the country for different purposes.

It is evident that teaching English for Specific Purposes (ESP) has become one of the most prominent features of the English language teaching process (Hutchinson &Waters, 1987; Robinson, 1991). Hutchinson and Waters (1987) reported that ESP is an approach for language teaching in which all decisions regarding content and methods are based on the learners' reasons for learning. It focuses on using English effectively in specific academic fields such as business, law, medicine, sciences, etc. Holding an important position in any ESP classroom, textbooks play a crucial part in meeting the learners' needs, increasing their motivations, as well as facilitating their learning. In Dudley-Evans and St John's (1998) words, this role is more prominent in situations where English is a foreign language (EFL) and naturally the ESP classroom may be almost the only source of English in exposing learners to the language. In this regard, the essential position of reading comprehension in EFL settings has turned this skill to the most important one needed for learners' success in a way that it is often known as the main goal of English language learning in such context (Erfani, et al. 2011). However, reviewing the current ESP textbooks in Vietnamese academic context also shows that while the most significant skill which the students need for success is reading (Farhadi, 2006; Riazi, 2006), the lack of useful strategies and techniques in such textbooks development as well as the low face validity in such textbooks are obvious (Iranmehr, et al. (2010); Soleimani, 2006).

The situation above urges the researcher to think of implementing a quasi-experimental research of applying Mind-map as a teaching and learning strategy to ESP with the hope to investigate the probable effectiveness of using Mind-map context in ESP reading comprehension ability of Medical and Police university students whose syllabus mostly focuses on this skill.

Mind-map and Its Uses

Using Mind-map in teaching and learning vocabulary

According to Nattinger (1988), words in our mental lexicon are tied to one another not only by meaning, form and sound but also by sight. Therefore, Mind-map is a kind of visualization which is helpful for memorizing vocabulary. Teachers and students can use this tool to form a net of vocabulary topics which cover the subject matter. For traditional way of learning, students have to learn long lines of vocabulary within the topics. By that way, there is no connection among words and the word lists are so limited and boring. With Mind-map, however, we can learn many words in a funny and effective way. The lists of words can be replaced by a picture of words. And as a very famous saying of Napoleon, "a picture is worth a thousand words". More importantly, the words are shown in connection when we look at the mind-map, which enables us to learn words easier.

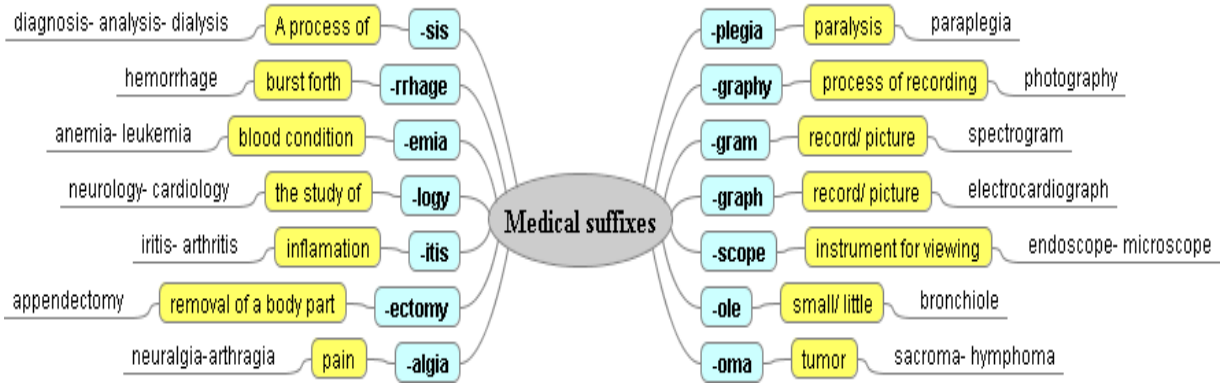

Diagram 1: An example of using Mind-maps to teach and learn medical terminology

Using Mind-map in teaching and learning reading skills

As mentioned, most ESP course books concentrate on developing the reading skills.. Students learn to skim and scan the texts in order to comprehend them and do the exercises that follow. Because Mind-map can be used to organize the information, it will be a great tool for students to skim and scan the readings and summarize the text by the model of a mind-map. Besides, Mind-map is known as a powerful brain-storming tool. It is helpful to apply it in the pre-reading activities in order to exploit the students' pre-existing knowledge to the topic.

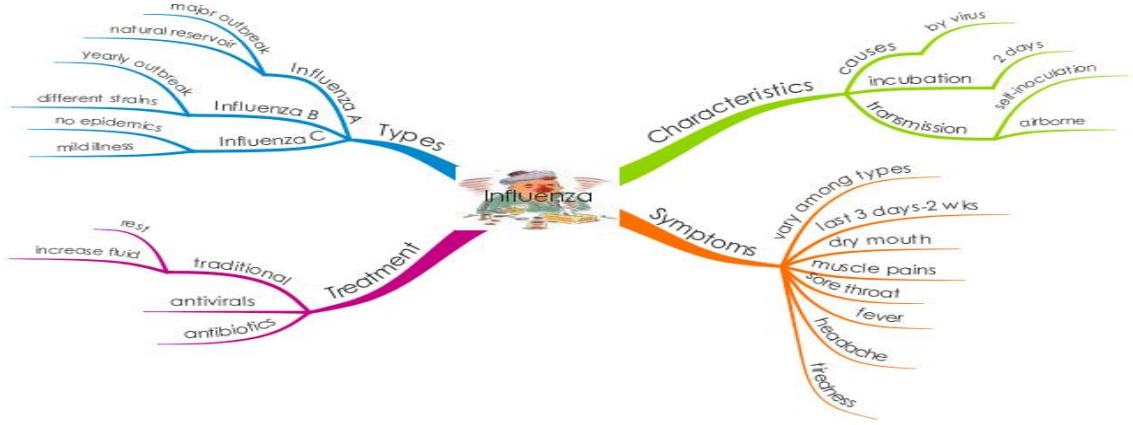

Diagram 2: An example of brain-storming pre-reading activities

Using Mind-map in communicative situations

In Vietnam, many students feel embarrassed dealing with English at work when they enter in the real world. Of course, one main reason is due to their poor competence of English but it is also due to a fact that ESP courses such as English in Medicine, Law, Engineering, Construction, etc., hardly provide students with communicative situations which they might encounter in their future jobs. For many

teachers of ESP, time limitation is also one of the big problems. How can they integrate communicative situations into their lessons in less time-consuming way? Mind-map will be the solution.
Mind-map can be used as an effective tool in brain-storming activities. The teachers should take advantage of any time when the real situations occur in order to get students to talk, discuss, and share their ideas. Teachers can raise a question related to a certain situation the students might cope with in their job and ask them to give their opinions. When students really enjoy and take part in the process of discussion, they are truly involved in communicative situations and develop their speaking skills. By that way, Mind-map facilitates the assimilation of knowledge and foster communication between teachers and students.

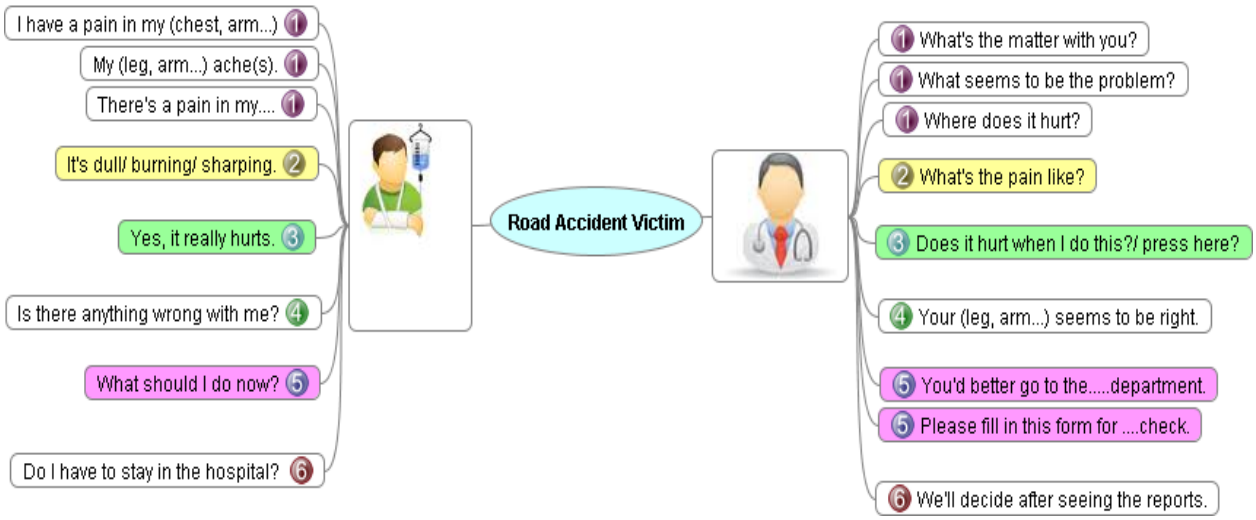

Diagram 3: An example of using Mind-maps in a communicative situation

Research Questions

In line with the attempt to determine whether mind-map context has any effect on improving ESP reading comprehension ability, a null hypothesis was formulated as: Mind-map context with the preferred computer-based type has no effect on the improvement of ESP reading comprehension of university students majoring medicine.

This study is further conceptualized and elaborated in the following research questions:
Is there a significant difference in the pre-test reading scores of the control group (i.e., students who do not participate in a mind-mapping program) and those of the experimental group (i.e., students who do participate in a mind-mapping program)?

Is there a significant difference in the post-test reading scores of the control and experimental groups?

Methodology

Participants
This study involved 60 students majoring medicine at Medical University. They were chosen to serve as experimental and control groups. To assess their language proficiency, a standard test of English was given to them and based on their scores they were categorized as pre-intermediate.

Design
Based on the purpose of the study, it followed a quasi-experimental design displaying the following characteristics: two homogeneous groups of pre - intermediate level students served as control and experimental groups. A treatment, namely mind-mapping context was offered to experimental group and the text-only context to control group. Two tests as pretest and posttest were administered in each group.

Procedure

After assigning the participants to two equal groups, the experimental group was encouraged to study the texts along with mind-mapping. They were taught for twelve weeks and during this time and the participants of control group were taught through texts only. In a more precise word, this group was not asked or encouraged to apply this tool in the process of reading ESP passages. After instructions, a posttest was performed for both groups.

Results

The effect of mind-mapping context on reading comprehension ability of university students was determined with the pretest-posttest equivalent group design. The pretest was given before students received reading instructions. To control for confounding variables, the control group were taught using the same instructional methods, except for enjoying mind-map context with the preferred computer-based type. At the end of the treatment, an independent sample t-test was used to analyze the data.

To answer the research question, after scoring the tests and tabulating the scores for each subject, the results were put under a series of statistical analyses. Next, an independent t-test was used to verify the pre-test results on both groups.

At the end of the study, the posttest was given to the groups and to confirm or reject the hypothesis, a t-test was used.

Table 1: Pre-test means (M) and standard deviations (SD)

	Control (n=30)		Experimental (n=29)		
Reading	M	SD	M	SD	T-test
Written test	3.6	1.4	3.9	1.2	1.65

Table 2: Post-test means (M) and standard deviations (SD)

	Control (n=30)		Experimental (n=29)		
Reading	M	SD	M	SD	T-test
Written test	9.3	1.8	12.3	1.4	6.3

Considering (t-observed = 1.65 < t-critical = 2.00) at the pretest and (t-observed = 6.3> t-critical =2.00) at the posttest shows that a remarkable difference between the two groups at the posttest stage is obvious. After comparing the two mean scores through t-test calculations, the researcher felt justified that the null hypothesis could be rejected. While the two groups were not significantly different at the outset of the study, they scored differently on the posttest and the difference was statistically significant.

Conclusions and Implications

The present findings seem to lend support to most of the related available findings in the field of ELT. The present study, as an attempt to integrate mind-map context in ESP, has focused on the extent to which mind-map context can enhance ESP reading comprehension of university students. Finding revealed that it could be cogently argued that this strategy do aid ESP reading comprehension of university students. This study was an attempt to seek ways to develop students into independent readers in the hope of giving students a love for reading, a thirst for it. The results of the study suggest that a well-conducted mind – map program can make a significant on reading proficiency. However, some limitations may have occurred:

The condition in which the research was conducted was too good: the students were tested through both tests: the Placement test and the pretest, which may not be very practical for carrying out on a large scale. The sample size was not big enough. Therefore, the result drawn from the study may not have been of high representativeness.

During the one-month treatment, some students were occasionally absent from class, which might have affected the result of the post-test. However all the students were present at the pretest and post-test. To prevent the Hawthorn effect, the researcher made sure that the students did not know about the research.

To control for short-term memory effects, the pretest-post-rest papers were neither corrected by the teachers nor returned to the students in both classes.

In conclusion, from a research perspective, the two groups would, ideally, have continued the control and experimental treatments for a longer period and on other subjects to see if the effect remained, if the experimental group continued their impressive progress and if the study may have been of high representativeness.

Students who are not currently skilled, enthusiastic readers face unnecessary and serious obstacles to realizing their potential contributions to themselves, their families in particular and to society in general. Thus, it is time for the teachers to create and implement programs to help students to get motivated in studying as well as students who fall behind in learning ESP. The model set in this study suggests that mind-map can play an important role in assisting students to improve their level of reading proficiency, and reading skill as well as the benefits that flow from them are essential if students are to become people who understand the word to know what are changing around them.

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