# Application of Mind Mapping in English Teaching

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**Abstract.** Mind mapping is a visual tool for knowledge representation and a method for concretizing radioactive thinking. Since the introduction of mind mapping into the field of education, it has had a positive impact in the process of education and teaching. At present, English teaching has a large vocabulary and information, a complex grammar structure, a large amount of text reading and a variety of writing styles, which pose great challenges to teachers and students. Mind mapping, in the form of visualization, effectively organizes and establishes the organic relationship between English knowledge, grasps the overall structure of knowledge, and promotes and stimulates students' interest in English learning. Based on this, this paper studies and analyses the current research status of mind mapping at home and abroad, and the application of mind mapping in English teaching. According to mind mapping and instructional design theory, this paper proposes a high school English teaching design model based on mind mapping.

## 1. Introduction

Mind mapping is a visual knowledge representation tool invented by Tony Buzan, a famous British psychologist in the 1960s. Mind mapping combines keywords, graphics and colors. It is of great significance to enhance people's understanding and divergent thinking ability. Therefore, it has been widely used abroad. In various fields, but the application of mind mapping started relatively late in China, and the application is not universal enough.

As a new mode of thinking and learning method, mind mapping has become more and more widely used with the development of information society. How to effectively apply mind mapping to education and teaching has also become a concern of educational researchers and workers. For example, in May 2016, Lu Qin and Han Ping elaborated the characteristics of mind mapping, reviewed the application status of mind mapping in clinical nursing work and nursing education in China, and prospected the application of mind mapping in nursing specialty[1]. In 2017, Han Ying, Zhao Wei, Jiang Qiang and Meng Fanyuan found that the model of knowledge resources co-construction and sharing guided by dynamic mind mapping is an effective way to organize resources, which can solve the problems of weak linkages and heterogeneous distribution of learning resources, ultimately reduce the cognitive load of learners and promote the cognitive development of learners [2]. In July 2019, Hu Jixia started from the use of mind mapping in primary school mathematics teaching, explored its specific application in the classroom, and put forward some suggestions, hoping to make mind mapping play a greater role in the development of primary school mathematics teaching in China [3].

English is the most populous language in the world. With the development of economic globalization, China has become more and more closely connected with the world. English is the most important bridge for China's foreign contacts. Therefore, the development of English teaching is particularly important. Good English teaching level can greatly improve the basic English quality in China, which also promotes the research of English teaching by English educators. For example, in August 2016, Deng Di introduced the development process and theoretical basis of the flipped classroom model, summarized the implementation process and task characteristics of the flipped classroom model in College English teaching in China, hoping to provide inspiration for the research and development of the flipped classroom model and its more effective application in College English teaching[4]. In April 2017, Yang Hua and Li Liwen constructed the "output-oriented language and culture integration teaching model". This model not only helps students improve their language application skills, but also promotes them to interpret foreign cultures appropriately and

effectively, connect with their own cultures, understand themselves and others more profoundly, and cultivate open and inclusive concepts and attitudes in the context of foreign language education in China [5].

By breaking the traditional English teaching mode and taking mind map as the theme, this paper conducts a questionnaire survey among 60 students to find out the current situation of mind map application in English teaching and the students'interest in English, which will give some inspiration to the application of mind map in English teaching.

## 2. Mind Mapping

Mind mapping, also known as mind mapping, was originally created by Tony Buzan, the "father of memory" in Britain in the 1960s as an effective note-taking method. Tony Bozan applied this method to students who were called losers, and found that their thinking patterns had changed, their grades had improved greatly, and they had quickly become good students, and some of them had become outstanding students in the same grade. In 1971, Tony Bozan began to assemble his research results into a book and gradually formed the concept of mind mapping. It is a tool to visualize the process and result of radiological thinking based on hierarchical and classified information organization, to branch from the central theme through specific correlation, to branch from keywords or graphic markers, and to make full use of the change of color and font. So mind mapping is the guide and record of the thinking process, the ultimate organizational thinking tool, and the graphic representation of the relationship between knowledge structure. The creation result of mind mapping is a radioactive figure with multiple branches from the center.

Mind mapping presents a three-dimensional thinking structure, and its design is divergent. It always spreads from the center to the surroundings in the form of an endless branching chain from the center, each word or image related to it becomes a sub-center; mind mapping can turn dull information into colorful, easy-to-remember, highly organized maps, and it can deal with things with itself with our brain. However, the way of thinking coincides with that of describing knowledge and information intuitively and vividly. Mind mapping is also an effective thinking tool, which combines lexicon, logic and order of the left brain with image, rhythm, color and dimension of the right brain to participate in the process of thinking and memory and change the way of thinking. The idea of coloring, multidimensional and divergent is to use lines, colors, symbols, words and images in drawing, and to fully develop the "whole brain" of human beings and promote the development of thinking with the skill of laying equal stress on both pictures and texts. Therefore, mind mapping can be said to be both an intuitive image of the characteristics of the "graphics", but also a thinking tool. In other words, mind mapping uses a graphical way to guide and record the thinking process and realize playback. It is an effective tool to visualize the divergent thinking of human brain.

## 3. Research Status of Mind Mapping at Home and Abroad

### 3.1  Research Status of Mind Mapping Abroad

Mind mapping, originally as a form of note-taking, has attracted great attention in various enterprises. It is of great value in reporting, meeting and management, and has been widely used in enterprises. The study of mind mapping abroad mainly focuses on the application of mind mapping, covering a wide range of areas, including business, management, health care, education and other fields, and related research is also rich and mature. Since the introduction of mind mapping in the field of education, as a thinking tool to help students improve their cognitive level, mind mapping has been widely used in many countries, and has become a commonly used assistant teaching strategy in teaching. In Britain, the application of mind mapping is mature, and it has long become a compulsory course in primary and secondary schools. Teachers are required to use mind mapping skillfully and freely to serve teaching, to guide students to take notes with mind mapping, to consolidate memory, to improve reading ability and writing level, etc.In the United States, mind mapping has also been widely used and has become an indispensable daily teaching tool, requiring

primary and secondary school teachers to master the use of mind mapping, to use mind mapping to compile teaching plans, to use mind mapping to express ideas and creativity, to use "brainstorming" to implement teaching activities, to diagnose and evaluate students' knowledge. Understanding and so on.

## 3.2 Research Status of Mind Mapping in China

Compared with the development of foreign countries, in the past ten years, China's mind map has made considerable progress from theory to practice. There have been many research projects in this field, and there are also a large number of related academic papers. The potential huge educational application value of mind map has attracted the attention of educational technology researchers. As shown in Figure 1, it can be seen that the development of mind maps in China has shown a steady upward trend in the past decade. There have been a large number of academic papers in different fields of various types of mind maps, including enterprise management. Of course, there are a large number of medical-related, educational-related applications, which are also of concern to educators. These papers give us a lot of theoretical foundations for mind mapping, and also give us an empirical reference for practical application and research. Shi Wei of Shenyang Normal University [6], Shen Ping of Shanghai Normal University [7], Zhang Yuying of Shandong Normal Law [8] and many other pioneers in the education sector are talking about the theoretical significance and application practice of mind mapping [9-10].Some training institutions have incorporated the use of mind maps to promote individual thinking development and learning ability as a course into the training system. There are also many domestic companies that are working on the localization and development of mind mapping software. I believe that more and more people will pay attention to and use mind maps in the near future.
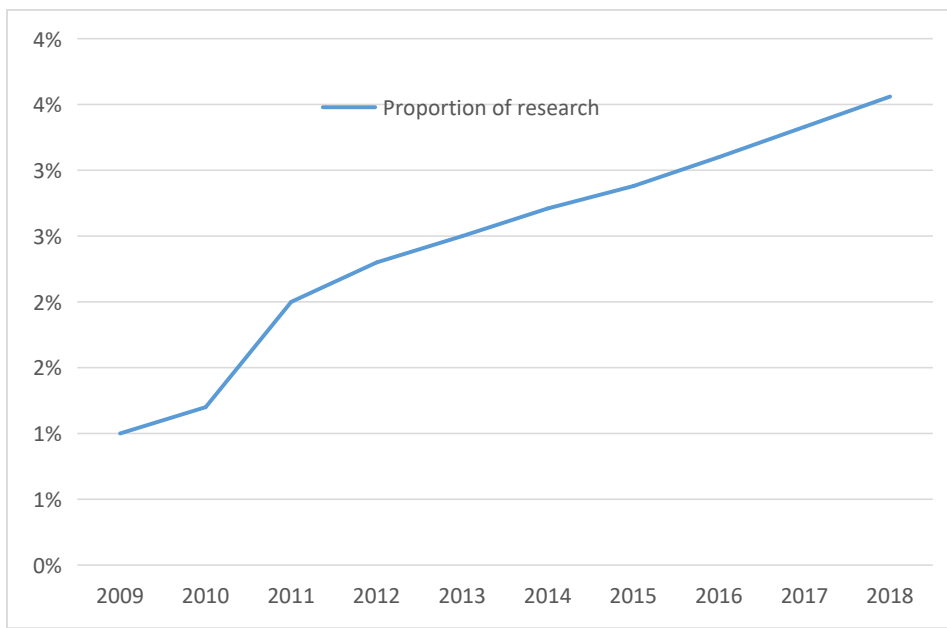


Figure 1. Proportion of Mind Mapping Research in China

## 4. Data Sources

Data sources were collected at the end of the autumn semester in January, 2019 and the spring semester in June, 2019 respectively. Students in the experimental class and the control class were asked to fill in the questionnaire of "interest in learning English for senior high school students" in the classroom for two times. Each questionnaire lasted 20 minutes and was collected with English teachers in the control class. Relevant data were analyzed by using the statistical software of Social Sciences (SPSS17.0). In May 2019, the students of the experimental class were asked to complete a questionnaire survey on the application of mind mapping in class, which took 10 minutes. After collecting relevant data, the data are analyzed by Excel software

## 5. Results and Discuss

According to the questionnaire survey, in January 2019, the students in the experimental class and the control class had almost the same interest in English learning, but in June, the results showed that the students in both classes had increased their interest in English learning, and the degree of improvement in the experimental class was more obvious than that in the control class. The difference has statistical significance.

Table 1    Changes in Learning Interest

| Content | | Laboratory class | | reference class. | |
|---|---|---|---|---|---|
| | | Pre-test | Post-test | Pre-test | Post-test |
| Do you like English? | Like | 21% | 39% | 23.5% | 26.5% |
| | Dislike | 30% | 2% | 30% | 15% |
| Do you like English teachers? | Like | 17.5% | 29% | 16% | 23% |
| How do you learn English? | Listen in class but don't speak. | 53% | 18% | 56% | 44% |
| | Listen and speak in class | 29% | 69% | 28% | 40% |
| You like it in English class | Go to the podium and be your own teacher | 0% | 13% | 0% | 7% |
| | Discuss with your classmates | 20% | 48% | 23% | 19% |
| | Listen to the teacher | 53% | 21% | 56% | 53% |

As shown in Table 1and 2,from the perspective of vertical comparison, the interest of students in the experimental class is improving. It is mainly reflected in the increase in the number of students who like English, the decrease in the number of students who do not like English, the increase in the number of students who like English teachers, the improvement in the scores of students, and the decreasing number of students who go to school in English. The number of students in the class has also increased by 40%, and the way most students have taken lectures has changed. From the 32% of the number of people who like to listen to the teacher, it is seen that the students prefer to discover and explore themselves; 28%; from these data, it can be seen that through the help of the learning strategy of mind mapping, students have increased their self-confidence in learning English, helping others and getting help from others, and ultimately leading to learning English. Interests have gradually increased, but we can also see from the table that the change in the time spent on students to complete the assignments is not very significant. According to the questionnaire survey, 75% of the students think that the method of mind mapping is effective and helpful for their study; more than half of the students can apply the mind map to the notes, 90% of which are in the teacher's Under the guidance, relevant review notes will be produced to promote personal knowledge, help memorize and improve review efficiency. At the same time, 22% of students feel that their creativity is better than before; 70% of students should adapt to one semester. Mind map teaching method.

Table 2　Application of Mind Map

| Content | | Laboratory class |
|---|---|---|
| What do you think of mind mapping? | Good results, often used | 75% |
| When will you use mind mapping? | Take notes | 50% |
| | Review | 90% |
| Do you think mind mapping is helpful for learning? | It's very helpful. | 33% |
| | It may be helpful. | 25% |
| Are you interested in mind mapping? | Very interested | 42% |
| | interested | 26% |
| What aspects of mind mapping can help you learn (multiple choices) | Promoting collation | 39% |
| | Improve the efficiency of review | 89% |
| | Helping memory | 60% |
| How do you think the use of mind mapping has improved your learning ability (multiple choices) | memory ability | 56% |
| | Innovation ability | 22% |
| If the teacher teaches on mind maps, you think—— | very good | 55% |
| | accept reluctantly | 17% |
| Are you accustomed to using mind mapping in class? | very good | 56% |
| | accept reluctantly | 14% |

From this, we can conclude that the students are accepting and accepting the mind map. In this process, the students realized the real learning pleasure. Through the mind map, the learning tool and the divergent thinking method, students can continuously refine the mind map by drawing, modifying, reflecting, and redesigning the loop. Not only will the knowledge of the graph be used to represent the knowledge, but also the knowledge and concept. The relationship between the two also changes the learning content from invisible to explicit, and links old and new knowledge points to learn self-directed learning.

## 6. Conclusion

This paper focuses on the enlightenment and application of mind mapping in teenagers' English teaching. From a theoretical point of view, it analyses the specific meaning and function of mind mapping, and analyses the application status of mind mapping at home and abroad. This paper verifies the effectiveness of mind mapping in English teaching by means of questionnaires, which can give full play to students' autonomy and enable them to actively engage in learning.

**Acknowledgement**

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