

THE APPLICATION OF MIND MAP TO  
ENGLISH READING TEACHING IN  
CHINESE JUNIOR HIGH SCHOOL

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Man Li

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## Abstract

As one of the four basic English skills, English reading is an significant part of the English teaching in junior high school. But there still exist certain problems in the present junior high school English teaching of reading. The majority of junior high School English teachers still adopted the traditional teaching model, paying great attention to explaining the words and the grammar, ignoring the development of students' integral reading ability. Moreover, teachers are still the center of the classes; students are passive to accept the knowledge and lacking of interest in reading. It is necessary to provide a new reading method to stimulate students' reading interest and improve students' reading ability. Mind Map is one such knowledge visualization tool, combined the knowledge with key words, images together, has great significance to the enhancement of people's understanding and the divergent thinking ability. Based on the present situation of reading teaching in junior middle school, the paper will explore the following questions: 1. Can the application of Mind Map in English class motivate students' interest to learn English reading in junior high school? 2. Can the application of Mind Map in English class improve students' reading ability in junior high school?

I hope to provide some new ideas for the teaching of English reading in junior high school through the application of the Mind Map, making learning and teaching of reading more efficient for both students and teachers.

**【Key words】** : Mind Map; English reading teaching; reading interest; reading ability.

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Man Li

Under the Supervision of Dr. James Romesburg

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## Chapter 1 Introduction

### Research Background

In today's information age, reading is not only an important way for people to acquire knowledge and develop thinking, but also an indispensable cultural skill. As one of the four basic skills of listening, speaking, reading and writing, reading is an important part of the basic knowledge of English language, and also the focus of English teaching in junior high school.

The English Curriculum Standard for Compulsory Education issued by the Ministry of education of the people's Republic of China (2011 Edition) clearly states that junior high school students should meet the five-level skill requirements when completing the compulsory education stage, and at the same time, the corresponding requirements are put forward for the training of middle school students in comprehensive quality and other aspects. Compared with the previous curriculum standards, the 2017 version of the new curriculum standards pay more attention to the requirements of students' comprehensive language use ability.

In addition, the vocabulary, grammar, content, text and theme of reading are more and more appropriate to the requirements of the new curriculum for junior high school students' reading ability. (Taking the English test paper of Wuhan senior high school entrance examination in 2018 as an example, the total score of the test paper is 120, of which the reading comprehension part is as high as 30, accounting for a quarter of the total score), which is the highest proportion of the test paper. Moreover, from the English reading test types of Wuhan senior high school entrance examination in recent years, it can be seen that

there are fewer topics that students can directly find the original text, With the increasing number of topics that summarize the main idea and infer the meaning of the context, students are required to have a higher level of reading comprehension and comprehensive analysis ability, and master the main idea of the full text macroscopically, rather than just stay in the understanding of the surface information of the sentence. Therefore, in the process of junior high school English Teaching in compulsory education, the status of English reading is very important and cannot be ignored.

So far, most English reading classes still use the traditional reading teaching mode of translating the text word by word to help students understand the main idea of the text, but ignore students' reading skills and reading strategies. If teachers pay too much attention to language form, they will ignore students' understanding of text content. This traditional English reading teaching mode of instilling knowledge under exam oriented education is easy to make students lack the ability to think actively. Once there are too many new words in the article, students will encounter obstacles in reading and form a fear of difficulties and they will rely on dictionary and translation software. When students look up the new words one by one, their understanding of the articles is fragmented and lack of integrity. The students take notes in the book according to what the teacher said. This kind of reading teaching mode is not conducive to the cultivation of students' creative thinking and independence, and it is difficult to form their own emotional attitude towards the articles.

In view of this kind of teaching phenomenon, English teachers need to make efforts to change the traditional English reading teaching mode. In addition to teaching new words, grammar and sentence patterns, they should pay more attention to teach students how to read

and help students to develop their thinking and improve their English reading ability.

Mind mapping uses lines, symbols, colors and images to make the content expressed in reading materials more intuitive, visual and logical. This new teaching tool of visualization is helpful for students to sort out and construct knowledge networks, express reading materials more intuitively and clearly, and deepen students' understanding and memory ability of reading text.

### **Purpose of the Study**

Although the rapid development of information technology and the Internet provides more choices for contemporary students to learn English, learning English in class is still the mainstream way to acquire English at present. Therefore, how teachers choose more effective teaching methods is worth pondering. The mind map infuses fresh blood into the original monotonous reading class, which makes students learn English more efficiently and actively while improving the efficiency of classroom teaching.

The purpose of this study is as follows:

1. I introduce the concept of mind map into Chinese junior high school English reading teaching, aiming at creating a teaching environment with students as the center and teachers as the guide, so as to arouse students' interest in English reading.

2. I expect that the mind map drawn by students themselves can be used as a teaching aid to help students build a framework, clarify their ideas, and deeply understand the reading materials, so as to improve their English reading comprehension ability.

3. I provide some reference for junior high school English reading teaching by confirming the feasibility of thinking map, hoping to contribute to improving English reading

teaching.

## **Significance of the Study**

### *Theoretical Significance*

Mind map can present the complex and tedious reading text to the learners in a concise form, and find out the important and difficult points of the article through the learners' active and autonomous acquisition of key words, so as to facilitate the memory of the brain. It also helps students to clarify the branches of the article, form a frame in their minds, and facilitate students to understand the reading text. Through this study, I try to provide a new English reading teaching mode on the basis of the traditional English reading teaching mode, and also looks forward to providing some reference and suggestions for the implementation of the new curriculum reform in junior high school English to a certain extent.

### *Practical Significance*

For students, mind mapping, a novel way in English reading class, can make students more interested in English reading to a certain extent, and inject new vitality into the dull reading class, make students experience fun in the process of reading, and then form good English reading habits. In addition, mind map can help students to clarify the context of the article, form a knowledge framework, connect the new and former knowledge systems, so as to deepen the students' understanding of the text, and improve their English reading level. At the same time, students can cultivate their creative and divergent thinking in the process of drawing their own mind map, cultivate cooperative consciousness in group activities, and retell the text after reading can also help students to improve their oral expression ability.

For teachers, using mind map in reading teaching can change the traditional teaching mode from teacher-center to student-center in reading class, hoping to achieve better teaching results. It is also expected to change the traditional teaching concept to a certain extent and improve teachers' teaching literacy.

### **Structure of the Paper**

This paper consists of three parts:

The first section introduces the background, purpose and significance of this research;

The second section is literature review, which defines the concepts of mind map and reading, introduces two main methods of drawing mind map and five basic structure types of mind map, and summarizes the theoretical basis of mind map and the related research at home and abroad;

The third section is the conclusion of the study, which points out the shortcomings of this study, and puts forward the relevant teaching enlightenment and suggestions for later research.

## Chapter II Literature Review

### Conceptual Definitions

This section defines two important concepts involved in the topic: mind map and reading.

#### *Definition of Mind Map*

Mind-Map is a “very useful graphic technology” (Tony Buzan, 1999) proposed by Tony Buzan, a famous British psychologist and educator, based on the research results of brain science in the 1960s. Tony Buzan put forward the concept of radioactive thinking when he studied the neurophysiological structure of human brain, so he simulated the radioactive mode of mutual transmission of messages between neurons, combined words with lines, images and colors, and invented a graphical tool to express human thinking - mind map. Tony (2005) believes that every information processed in the human brain can see a core theme, which can radiate countless associations related to it in all directions, forming a huge information network. Tony (2011) has supplemented the concept of mind map, believing that "mind map is a thinking tool for storing, organizing, optimizing and outputting information in the form of diagram and network structure" (Tony Buzan, 2011). He also summarized mind mapping as a very useful graphic technology, which is the master key to open up the potential of human brain.

Since the birth of mind map, it has been used in business, education, medicine, information technology, natural science and other fields. Therefore, scholars in different fields have different views on the definition of mind map. Murley (2007) believes that mind map is a kind of non-linear, visual expression with complex information, which can cultivate creativity, improve the effectiveness of thinking and memory. Liu (2009) believes that mind mapping is a more vivid and clear learning aid, and also a means of teaching and understanding. Novak (2011) defined

mind map as a kind of image-based thinking aid tool to show structural relationships. Zhao (2012) defined mind map as "a visual and non-linear thinking tool to stimulate and organize thinking."

To sum up, I think that mind map is a kind of graphical tool that combines keywords with lines, images and colors to make complex knowledge structured and visualized.

### ***Definition of Reading***

What is the definition of reading? Different people have different understanding of its concept: American psychologist Goodman (1973) thinks that "reading is a guessing game about psychological language process"; Smith (1978) believes that readers read for answers; Christina (2015) believes that reading is a communication process. In our country, Zhang(1995) put forward the definition of reading in reading psychology, which mainly includes two meanings, one is that reading is the process of translating written symbols into sound symbols, the other is that reading is the process of readers building new knowledge with their own knowledge and reading content. Since then, many domestic researchers in China have agreed with the above views and defined what reading is.

Reading activities and reading related research has been highly valued by scholars at home and abroad. Yang(2009) proposed that reading is an intellectual activity process of positive thinking. Wang (2012) mentioned that reading is a complex cognitive activity. It can be seen that reading is a kind of cognitive behavior, a kind of communicative behavior, and also a basic way for human beings to acquire knowledge. Human beings inherit knowledge and culture through reading and reading plays an indispensable role in the process of human reproduction and development.

To sum up, I believe that reading is a proactive and meaningful process of acquiring new knowledge.

## **Drawing Mind Map**

In general, there are two main methods for drawing mind map, hand drawing and drawing by software.

### ***Hand-drawing***

Hand-drawing method is the most direct and easy way with strong subjectivity. It is the product of students' wisdom. The main steps are as follows:

The first step of drawing a mind map is to clarify the theme of the reading material and put it in the core part of the mind map. The purpose is to express the first branch of the article with concise words. Every branch of each student's creation is the embodiment of their wisdom and shows their unique way of thinking with different lines, colors and words to the maximum extent, which is the advantage of hand-drawing method.

The second step of drawing a mind map is to extract keywords. After building a preliminary framework for a primary branch, the next task is to extract keywords from the article. Key words are like trunks, and the details of the article are like leaves on branches. Look carefully for key points related to keywords as secondary and tertiary branches.

The last step of drawing mind map is to sort out the logical relationship between different levels so that the branches can be organically linked. And in order to make the whole mind map look more beautiful and clear, there should be a certain gap between the points. And try to use different colors to draw lines and arrows between relevant keywords to indicate the relationship between the key points, so that students can understand the article more deeply.

The above steps are for students' reference only, because each student's mind map has its unique style and there is no unique standard.

## ***Drawing by Software***

As a tool, mind map has been widely used in many fields. People have a great demand and higher requirements for mind map. Inspiration, Mind-Mapper, Mind-manager, XMIND, Share-mind and other drawing software emerge as the times require.

Drawing mind map by software is time-saving and practical. It can not only provide cartographers with more convenient choices, such as diverse line shapes, rich picture sources, bright color selection and reasonable content typesetting, but also add audio, video and hyperlinks. Once the hand-drawn mind map is found to be wrong, it will be more troublesome to correct, while the software can help you delete the unnecessary parts and supplement the required content at any time.

### **Basic Structural Types of Mind Map**

Mind map is not uniform, there is no fixed template and its structure is diverse. Zhang (2005) thinks that there are many kinds of structure of mind map, which are chart type, brain storm type, tree type, chain type, problem solving type, interactive type, sketch type and circular type. Zeng (2008) thinks that compact map, radial map, rank map, chain map and graphic map are the five main types of mind map. On the basis of previous studies, I classify the mind maps commonly used in English reading class into five types: brainstorming map, grade map, chain map, inductive map and cycle map.

#### **(1) Brainstorming Map**

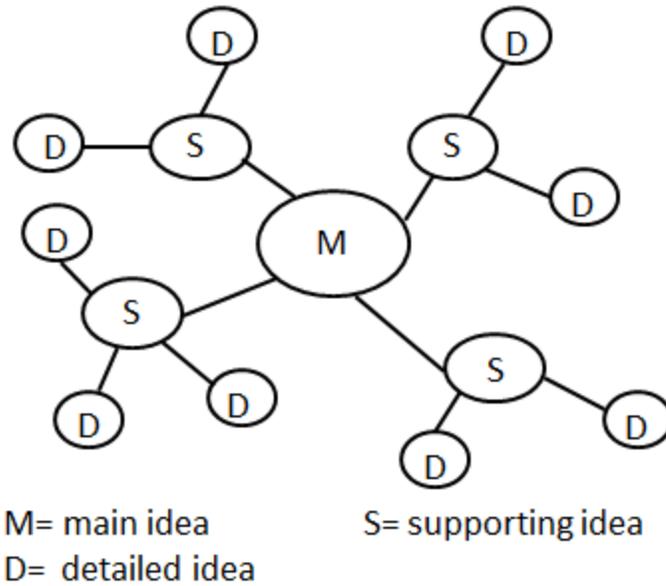


Figure 1: “Brainstorming Map” from Zeng (2008)

The feature of brainstorming map is that it usually takes the topic of the article as the center word, and expands from the center word to the node words of the subordinate branches. The structure is similar to the tree, the logic is clear, the composition is simple, and reflects the divergent thinking. It is usually used for the introduction before reading and the expansion after reading, which is convenient for students to brainstorm and active thinking under the guidance of teachers.

(2) Grade Map

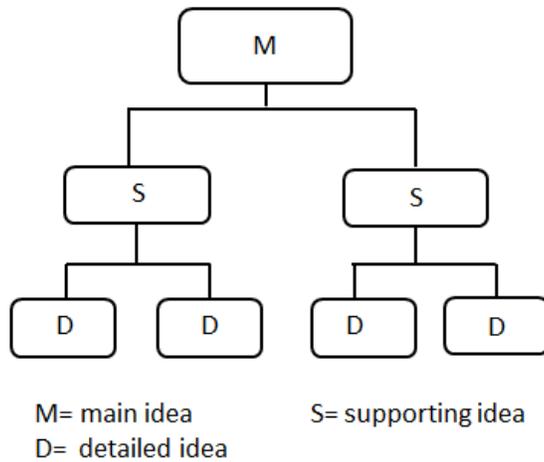
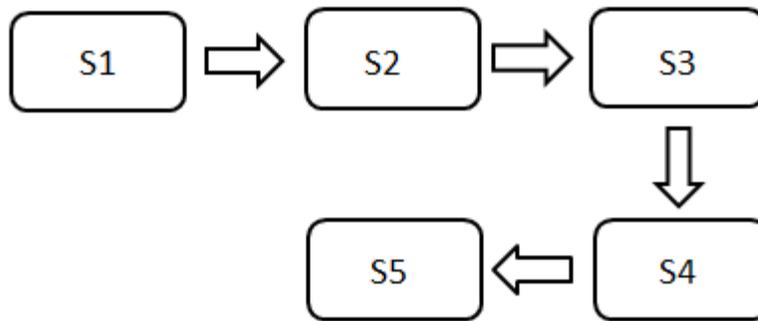


Figure 2: “Grade Map” from Zeng (2008)

The characteristic of grade map is that there is a strict subordinate relationship between the superior and the subordinate, and usually its position can not be moved at will. The level and the logical order are clear. It is suitable for articles with more levels, argumentative articles and expository texts with more arguments.

(3) Chain map



S= step

Figure 3: “Chain Map” from Zeng (2008)

The characteristic of chain map is that it mainly depends on the arrows to link each branch, which is progressive layer by layer. It is usually used to present the steps, sequence and

relationship of the development of things, and is mostly used for narrative or expository text. The arrow can be pushed forward or backward in order to cultivate students' ability of reverse thinking.

(4) Inductive map

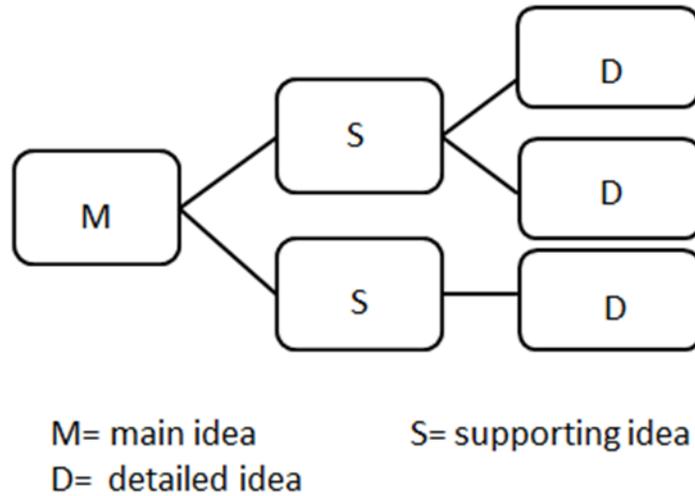


Figure 4: “Inductive Map” from Zeng (2008)

The characteristic of the inductive map is clear. Each branch starts from the theme, which is interrelated and independent. It’s mostly used in articles with complex content.

(5) Cycle map

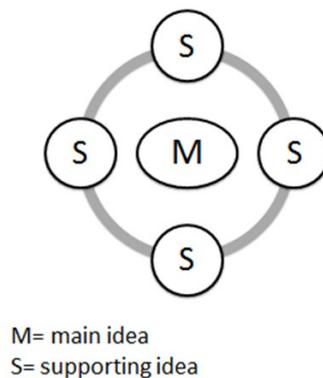


Figure 5: “Cycle Map” from Zeng (2008)

The characteristic of cycle map is that it is used to represent the process of the cyclic change

of things. Each step is relatively independent, but it is closely related to the subject, indicating the antecedents and consequences of things and the internal relationship between them. It is usually applied to expository texts.

To sum up, although the five kinds of structural diagrams have their different characteristics, they play the same role. That is, in English reading class, they can make complex and complicated knowledge clear and organized, help learners to construct knowledge framework in the brain efficiently and quickly, and also help to stimulate students' existing schemas, so that they can quickly associate and memorize.

## **Theoretical Basis of Mind Map**

### ***Constructivism Theory***

Constructivism was first proposed by the famous psychologist Piaget in Switzerland. Constructivist learning theory holds that the process of learning should be the process of learners' active construction of knowledge, rather than the process of passively accepting the infusion of external knowledge. And in the process of teaching, we need to selectively process and transform knowledge with necessary resources or tools to help learners reorganize the original knowledge and experience in their brain to grow into new knowledge and experience and complete the meaningful process of knowledge construction. The core idea of constructivism is student-centered, emphasizing learners' subjectivity. In the process of learning, students are the leaders, designers and organizers of the classroom. Constructivism emphasizes the importance of cooperation and believes that a good learning environment helps students build knowledge. Everyone's growth environment and knowledge background are different. Students brainstorm in the cooperative environment, discuss with their peers from a number of angles to build knowledge and improve learning ability together. The construction process of learners is

two-way. On the one hand, the existing knowledge background of learners lays the foundation for the construction of new knowledge. On the other hand, the new knowledge should be understood, grasped and deepened through the continuous extraction, reorganization, transformation and integration with the former knowledge.

The application of mind map in English reading class emphasizes the importance of students' active and independent participation in the class. First of all, the drawing of mind map needs students to complete independently, and teachers play a role in assisting students in the whole teaching process. Secondly, students process the original knowledge background through mind map, and form new knowledge. The frame structure provided by mind map helps students to clarify their ideas, develop their logical and divergent thinking, and form a relatively complete knowledge learning system. Finally, students share the mind mapping results with their peers and groups in class. This activity not only creates a teaching environment for students to actively participate in and cooperate with each other, but also condenses students' team consciousness to a certain extent, and improves students' interpersonal skills.

It can be seen that the implementation and application of mind mapping in English reading teaching and the views put forward by constructivist learning theory echo each other, and constructivist learning theory also provides an effective basis for mind map.

### ***Knowledge Visualization Theory***

Eppler & Burkard(2004) argues that "knowledge visualization theory refers to all graphical means used to construct and convey complex knowledge ." In 1971, Paivio, a Canadian psychologist, showed that knowledge visualization had an impact on students' speech and memory. Knowledge visualization helps people to encode new knowledge systematically in the brain, store the processed information in memory, and finally present it in the form of diagram

when needed. This way helps people to understand and deepen the absorption of knowledge. "The more you personalize your mind map, the easier you will remember the information" (Buzan, 1993). The drawing process of mind map makes the implicit knowledge in the learner's mind explicit in the process of thinking, which is an effective graphic tool. And the mind map contains colorful pictures to stimulate students' vision and brain thinking, and visualize the boring and tedious text materials with pictures, lines and colors. To a certain extent, it helps students quickly identify and extract information, which is easy to save, recall and use in their minds. To sum up, knowledge visualization plays a supporting role in the application of mind map in theory.

## **Research Status of Mind Map in China and Abroad**

### ***Current Research Status of Mind Map in Foreign Countries***

The concept of mind map first appeared abroad and was put forward and applied by famous British scholars Tony Buzan in 1960s. At first, mind map as a teaching aid is to help a group of students with learning obstacles. After achieving good results, it has been widely concerned by scholars.

Then many countries began to pay attention to and try to apply mind map. In Britain, mind mapping has been listed as one of the compulsory courses for primary school students. In the United States, mind mapping can be found in many primary and secondary schools, such as the National Educational Technology Standards of the United States, which provides examples of excellent teaching plans and software resources for using mind mapping. In Singapore, the Ministry of Education recommended the *Child Mind Map* as a required reading book to parents, which provided useful enlightenment for parents. In New Zealand, famous educator Christy Ward also regards mind mapping as an effective teaching strategy and actively recommends this

method to scholars. In recent years, Germany, South Korea, Australia and many other countries have also begun to actively try to apply mind mapping to various disciplines.

The application of mind map in subject teaching is relatively early and played a good effect in foreign countries. Mento (1999) integrated mind mapping into the teaching of business administration and confirmed that mind mapping can help students improve their learning efficiency and cultivate their creative thinking. The results of Farrand (2002) show that mind mapping can help learners to retell and recall the text information to a certain extent. Through comparative study, Adb-EI-Khalick (2008) proved that the practical mind map method is better than the traditional method in taking notes in natural science class and the scientific performance of the experimental group is slightly higher than that of the control group after the experiment. Shiina (2008) studied mind mapping in English class of Cuiling middle school in Japan. The results show that mind mapping can effectively help students memorize English words. Howitt (2009) applied mind mapping to children's education, proving that it is easier to attract children's attention with actual objects than written graphics and the teaching effect is better;

Ismail, Ngah and Umar (2010) applied mind mapping to the teaching of computer major. Research shows that mind mapping can help computer major students improve their metacognitive level and programming ability. Mind mapping not only plays a role in the field of education, but also has been widely used in business, medicine, information technology, natural science and other fields, and has achieved good results. In recent years, with the development of information technology and science and technology, mind mapping has become a tool of e-learning for learners and professionals to improve their learning or work efficiency.

To sum up, mind mapping has been applied in foreign countries for a long time with a wide range of applications, a relatively wide range of ages and a relatively deeper development in

subject teaching. However, most of the researches on mind mapping abroad focus on the practicability and effectiveness of mind mapping from a macro perspective, while there are few empirical researches on students' listening, vocabulary, grammar, reading, writing and so on.

### ***Current Research Status of Mind Map in China***

Compared with foreign countries, mind mapping started late in China, but it has developed rapidly. This chapter will summarize the application of mind mapping in China from the following three stages:

#### 1. The embryonic stage of mind mapping in China

In 2000, Chinese scholar Wang Gongling applied mind map to classroom teaching for the first time, which is of great significance to the application and development of mind map in subject teaching in China. Shi (2001) then made a detailed introduction of what mind map is, the characteristics of mind map and how to stimulate brain thinking. Dong Haitao applied mind mapping to the business field. Since then, mind mapping has been involved in many fields in China.

#### 2. The identification stage of mind map in China

After the concept of mind map was introduced into China, some scholars confused it with concept map and even some scholars thought that mind map and concept map had no difference and could be used instead of each other. Zhao and Lu (2004) distinguish and differentiate mind map and concept map for the first time and explain their similarities and differences in detail. On the basis of Zhao Guoqing and Lu Zhijian's research, Yang (2006) proposed that concept map and mind map should complement each other and jointly assist learners in the development of teaching application. Yang(2006)thinks concept map is a graphic method that uses nodes to

represent concepts and lines to represent the relationship between concepts. Mind map is a specific method of radioactive thinking. It uses the skill of paying equal attention to graphics and text to show the relationship between different levels of topics with the hierarchical map of mutual subordination and correlation, and to establish memory links between the theme keywords and images, colors, etc. In 2005, Tony Buzan, the founder of mind mapping, came to China and carried out a series of training activities related to mind mapping. The successful holding of the activities made the concept of mind mapping known to more people and its application scope wider.

### 3. The application stage of mind map in China

In recent years, mind mapping has mushroomed in various fields of China and has made rapid progress and achievements in the subject English teaching.

Zhang(2005) studies English reading teaching by using mind map as a classroom assistant. The results show that mind map improves students' ability of understanding, memory and information exchange. Zhou(2013) tried to use the mind map in rural junior high school English reading teaching by teaching experiment. The experiment showed that the students' interest in learning and communication with teachers and peers were obviously enhanced, but different from the research assumption. There was no significant difference between the experimental class and the control class.

Chen(2014) obtained the conclusion that mind map can not only stimulate students' interest in learning, but also improve students' English reading achievement and reading level. Zheng (2016) integrated the mind map into the reading learning strategy. The four-month English reading teaching experiment proved that the students' reading strategy use played a positive role compared with the previous experiment and the students' reading comprehension scores were

also improved. However, Chen(2016)'s experimental results show that mind map can effectively enhance students' participation in English reading class, but the results show that there is no significant difference between the experimental class and the control class.

To sum up, the previous research results of scholars whether the use of mind map in English reading class can effectively assist students in learning reading and improve students' reading comprehension are different. And it needs to be further studied and explored.

### **Chapter 3 Research Conclusions and Enlightenment**

## **Findings**

To sum up, mind map as a teaching tool can enhance students' interest in English reading and improve students' English reading ability in junior high school English reading teaching.

## **Teaching Enlightenment**

For students, mind map appears in students' reading class, which makes students have fun in the process of creating mind map by themselves, and they are more interested in English reading than before, and they are more willing to actively participate in the process of reading learning. The bright colors and various lines of mind map enable students to organically connect the old knowledge in their mind while building new knowledge, so as to improve their autonomous learning ability and logical thinking ability. From this, I realize that if we want to succeed in teaching activities, we must think from the perspective of students, make students have learning motivation and interest, stimulate students' imagination and association, and make the model teaching more vivid and easy to be accepted by students.

For teachers, teachers should have the good quality of lifelong learning, dare to innovate in the teaching process, dare to try new teaching methods, improve their own quality and research ability, and improve the level of education and teaching. A good teacher should not only take every lesson well, but also keep up with the times, master the latest educational trends, actively explore and constantly acquire new knowledge, constantly reflect and summarize in the teaching process, in order to establish a modern view of education and teaching.

For the teacher-student relationship, mind map appear in English reading classes as a link between teachers and students. Students read more smoothly under the guidance of teachers. Teachers reduce more teaching resistance in the cooperation of students. At the same time, students' autonomous learning ability is enhanced, teachers' professional development literacy is

improved, teachers and students learn from each other and progress together to achieve a win-win effect of teachers' teaching and students' learning.

For student-student relationship, in the reading class of mind map, the process of students sharing and evaluating each other through peers not only helps students' reading comprehension ability, but also has a good influence on the communication and cooperation ability between students. Students cultivate the spirit of cooperation and sharing in an active reading environment and establish good interpersonal relationships in order to promote students' social development.

In addition, I believe that in the future research, mind mapping can be applied not only to the teaching of reading, but also to the teaching of English writing and grammar. It is expected that mind map can be applied to all aspects of the subject in the future teaching process, and play its maximum use, which will have a good impact on both teachers' teaching and students' learning.

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