

Study on the Application of Mind Mapping to English Reading Teaching in Primary School

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Abstract

Primary school is the initial stage for learning English, and this stage of English learning will lay the foundation for students' further development in junior high school, which is of great significance. Reading is an important channel for students to learn English materials, increase their knowledge and expand their vocabulary. The development of reading skills will promote students' oral communication and writing abilities. Therefore, it is crucial for teachers to use English reading classes in primary schools to teach students efficiently. This study tries to apply mind mapping to English reading classes in primary school. The goal is to demonstrate that the application of mind mapping to English reading teaching can stimulate students' interest in learning English and reading English texts, promote the cultivation of students' writing ability, and develop students' logical and divergent thinking skills. In addition, this study also hopes to show that mind maps can improve students' reading manners, improve their reading skills through empirical research, and provide a better teaching method that will boost the efficiency and quality of English reading instruction in primary school.

Keywords

Mind Mapping; English in Primary School; Reading Teaching.

1. Introduction

With the increasing internationalization, the status of English in all primary school subjects is growing ceaselessly. English plays an irreplaceable role in all aspects of students' development. Moreover, it will always accompany students in their academic careers, so its great significance cannot be neglected by all English teachers. Reading is a considerable activity in human's social life, the main means for human beings to absorb information and a vital way to recognize the world. With the needs of the times, how to obtain effective information in a short time becomes progressively more important, so this will be the reason for the increasing requirements of reading ability.

However, in real classrooms, some primary English teachers usually do not take students as the center of the classroom, and still use old-fashioned traditional teaching methods when teaching English reading. They only focus on the student's mastery of the vocabulary and grammar of the reading material and do not care about the student's deep understanding of the text, which leads to the difficulty of improving students' reading ability. Traditional reading teaching methods put students in a submissive state throughout the whole teaching process, and the subjectivity of students' learning is severely fettered and blocked, so they seem to have lost interest in the reading classes or even are fed up with these rigid teaching models. Facing rich and diversified reading materials, students can only be deterred from comprehensive reading. The application of mind mapping can largely solve the shortcomings of traditional teaching methods. As a tool that can simply and efficiently describe people's divergent thinking, mind mapping realizes the visualization of thinking, which can fully mobilize people's thinking ability,

summarize and sort out the key information of the text. Furthermore, mind mapping is also a teaching method that conforms to students' physical and mental characteristics and combines learning with fun. It can effectively increase students' enthusiasm to read, and optimize a boring classroom atmosphere. Applying mind mapping to primary school English reading classroom can arouse students' interest in reading, break solidified thinking, and enhance students' reading ability. The most important of all, it can benefit both teachers and students. Through empirical research, the present author attempts to apply mind mapping to primary school English reading class, proving that this method can grow students' capability to find the key points in the reading material, foster their divergent thinking, and deepen their memory and understanding of the text. In addition, this study also hopes to provide a better teaching method for primary school English reading teaching through empirical research.

2. Literature Review

2.1. Mind Mapping and Reading

Mind mapping is a new thinking implement proposed by the well-known British psychologist and educator Tony Buzan in the 1960s. It is a visual and divergent thinking tool created in accordance with the radioactive characteristics of the human brain, which can present people's thinking process on complex problems through keywords, lines, graphics and so on, promoting the visualization of thinking (Buzan, 2005:19).

Reading is an important way for individuals to soak up information and learn knowledge. Equipping students with several practical reading skills that can ensure students' lifelong learning, so that students can have the ability to obtain valuable resources in the information society.

Beneath the guidance of teachers, the major role of applying mind mapping to primary school English reading classrooms can be fully played. In addition, it can defeat the problems and deficiencies of the traditional reading teaching mode, and students can understand the text reading more intuitively. During the course of drawing mind maps, students must carefully analyze the text content, extract key information, and clarify the context of the passage. Hence, by using mind maps in reading, students can better digest what the text presents and enhance their ability to find the key information of the passage, cultivate their divergent and logical thinking, and reinforce their memory and understanding of the content.

In foreign countries, the reason why mind mapping has been prevalent for many years is its conformity with the laws of human brain thinking. In the beginning, the main use of mind mapping was to help some students with cognitive disabilities, who could not read and learn like normal people. Mr. Buzan studied the different functions of the left and right brains, and made people's brains fully and skillfully combine to help these students get out of their learning difficulties. After continuous practice, these students can finally carry out logical analysis and spatial imagination like normal people, becoming top students (Tao Xiaoqiu, 2021:14). Therefore, many educators and psychologists have come to realize that mind maps are a very effective tool for students' study life and play a role that cannot be underestimated, so they have started to conduct more in-depth research. Many studies have shown that mind mapping has been applied to most aspects of education and has become an integral part of teaching methods abroad.

Compared with foreign countries, the study on mind mapping in China is relatively late. At first, its main research had focused on the sciences, and there was a great lack of research on mind mapping in English teaching. In addition, the relevant studies were superficial, not deep enough. After 2015, the related research on English teaching and mind mapping began to increase rapidly, covering a wide range of research, and the research content is constantly being deepened, summarized and refined. A growing number of scholars and students have realized

the practical value of mind mapping since it has been applied to primary and high school classrooms, and it has been recognized and affirmed by people. Chen Rumin applied mind mapping to primary school English reading classroom, taking the second volume of Grade six of Guangzhou Edition "Let's Read" as an example. Through comparative experiments, she found that this strategy improved students' reading ability and reading interest, raised their reading efficiency, and made their motivation become stronger (2018:62). Zhang Ziyang pointed out that the application of mind maps can improve the problem of low participation of students in traditional English reading classes. It can virtually strengthen students' reading comprehension ability, enhance their ability to retell texts, and deepen their memory (2019:25). Guan Yuting, by applying the mind mapping model to English reading teaching in upper primary school and analyzing it, came to two research conclusions: Firstly, through the application of mind mapping, the teaching model of the classroom has been reformed and the classroom atmosphere has been activated. Secondly, the application of mind maps helps students develop reading strategies and improve reading efficiency (2021:59). Nevertheless, previous studies on the application of mind mapping in English education mainly focus on high schools and colleges, and the related research on primary school is very few, if any. And there is also a lack of more detailed classroom case studies and analysis, for the specific steps and processes of teaching practice are not described. It is difficult to give primary English teachers a large reference value. Therefore, in this paper, the present author tries to apply mind mapping to primary school English reading classes, which can expand the scope of mind mapping.

In order to better comprehend and confirm the specific function of mind mapping in primary school English reading class, this study tries to apply mind mapping in the sixth grade English reading classroom at No. 1 Torch Primary School in Mianyang, setting up controlled and experimental classes and analyzing the experimental effects. This study will also deeply explore the implications of mind mapping on primary school students' English reading ability through specific teaching practices and questionnaires, verify whether mind mapping is beneficial to improve students' reading comprehension and support primary English teachers in improving the effectiveness and quality of English reading instruction.

2.2. Theoretical Basis of Mind Mapping

Knowledge visualization refers to a graphical image that can be used to build, convey and represent complex knowledge, helping people reconstruct, remember and apply knowledge correctly (Qiao Chunyu, 2011:19). Visual graphics and images make it easy for students to combine what they learn in class, which is conducive to their understanding and memory. Mind mapping is a knowledge visualization implement. Through the presentation of different lines, colors, and graphics in English reading class, the complex story plots and key information are clearly presented in another way, by embodying and visualizing a lengthy and dull passage, students can understand the content of the passage faster, which greatly reduces the problem of digesting information, enables them to grasp the main idea of the passage more quickly, enhance their memory and understanding of the content of the passage and master the skills of reading passages efficiently.

Constructivism is a theory about knowledge and learning, which emphasizes the initiative of learners. It is believed that learning is the process by which learners generate meaning and construct understanding based on original knowledge experience (Xi Pingxia, 2017:5). People's learning is also a process of information reprocessing. With the development of the times, new teaching methods and tools have emerged, and mind mapping has also begun to be used by many educators in English reading teaching. Mind mapping is a form of way for learners to reconstruct learning content. With the assistance of mind mapping, reading teaching can use visual information to decompose text content, which is advantageous to heighten learners'

thinking ability and learning ability. Meanwhile, it also has a positive significance for teachers to improve reading classroom efficiency.

3. Application of Mind Mapping in English Reading Class at Primary School

English reading teaching occupies an important place throughout primary English education. Improving reading skills can, to a certain extent, lead students to English language development, inspire their confidence in learning English, and increase their interest in learning English. However, the development of reading skills does not happen instantaneously and needs a longer course. Quality teaching methods can promote students' reading ability to progress faster. Therefore, in this experiment, for the purpose of searching for a more effective and popular reading teaching model, the present author explores the effects of mind mapping on students and verifies whether mind mapping can help primary school students improve their reading skills by applying mind mapping to primary school English reading classroom.

3.1. Research Design

This experiment was conducted in two classes of grade six at the present author's internship school, No. 1 Torch Primary School in Mianyang. Two parallel classes were used for the comparison test. The class two was taught as the controlled class and the class three was taught as the experimental class. Both classes were similar in situation: the same English teacher, similar class sizes, and with average scores of 85.03 and 84.16 in the final examinations of the last school year respectively.

At the early stage of the education practice, the present author found some phenomena when attending the English reading classroom: Most of English teachers in the school used very traditional teaching methods without utilizing mind mapping. Some students found reading texts very dry, so they had difficulty concentrating and were uninterested in learning English. This resulted in unsatisfactory teaching and learning results. These phenomena indicate that there is still much room for improvement in the English reading classroom at the school and that teachers urgently need to create more valuable teaching methods to renew the teaching model.

The preliminary investigation showed that the current status of the use of mind mapping in primary school English teaching is not promising. Most English teachers used mind maps very rarely in their reading classes, there were difficulties in designing mind maps that matched the text of the reading materials. Teachers had no methods and strategies for using mind maps.

To improve such a rigid reading classroom, the present authors utilize mind maps to support reading teaching and to observe and analyze the impact of mind maps on English reading classroom throughout reading lessons. The following three hypotheses were made for this experiment.

Firstly, the experiment can stimulate students' interest in learning English and reading English texts.

Secondly, the experiment can promote the cultivation of students' writing ability.

Thirdly, the experiment can develop students' logical thinking and divergent thinking skills.

3.2. Research Process

3.2.1. Preparation Stage of Research

Before the experiment started, the present author provided basic training on mind mapping to the experimental class, introducing mind mapping through classroom presentations and videos, as well as teacher demonstrations on mind mapping to give students a preliminary understanding of how to use mind mapping as a helping hand in the learning process and how

to draw mind maps to improve learning efficiency. After that, students practiced and drilled the drawing of mind maps. The teacher also provided individual guidance and answered to students who were confused. Before the experiment was officially implemented, the present author had discussed with the cooperating teacher many times, and continuously modified the design of all aspects of the instructional design, so as to maximize the use of mind mapping in the classroom teaching and make the research more referential and authoritative.

3.2.2. Implementation Stage of Research

The experiment was conducted for three months from September 2021 to November 2021. During this period, the methods used to teach English reading in the controlled and experimental classes were the traditional English teaching method and the mind mapping teaching method respectively. The content of the classes, the number of hours, and the teacher were the same in both classes, except for the methods of reading instruction, which differed. The present author randomly selected one case of the mind mapping teaching method in the experimental class during these three months:

[Teaching Content]

Lesson 3 in Animal World, Book 1, Grade 6

[Teaching Objectives]

- (1) Students can understand a passage about the elephant and its life habits.
- (2) Students can communicate with others about the content of the passage.
- (3) Students can imitate the passage and write a few coherent sentences.

[Teaching Plan in the Experimental Class]

A. Previewing through mind mapping

Students choose five different kinds of animals and fill in the mind mapping based on what they have learnt in the previous two lessons.

Unit 3 Animal World				
Animal	_____	_____	_____	_____
Category	reptile	bird	fish	mammal
Food	_____	_____	_____	_____
Living place	_____	_____	_____	_____
Appearance				
Activities				

Figure 1. Mind mapping used for previewing

[Design Intention] After several years of English learning, sixth-grade students are more than capable of completing this task by themselves. Students can use the mind map framework to get the main idea of the reading material in advance, which will help them to find the key content in the text quickly and improve their reading efficiency when reading the text. Through the mind mapping preview, students’ zeal for learning can be created and their activeness can be utilized. The use of mind mapping in the preview is to expand the content on the basis of traditional English reading preview, which is more scientific and entertaining. By doing this task first and learning later, students are able to learn new knowledge in class in a more purposeful way, which can improve classroom efficiency to a certain extent.

B. Using mind mapping in the classroom teaching

The teacher examines mind mapping sheets created by students to pay attention to whether they have enough motivation to learn English and to understand how good each student’s learning attitude is. The teacher briefly evaluates several representative samples of the mind mapping sheets to see if there are any defects in the process of perfecting the mind maps, and then gives timely guidance and assistance to those students who have problems, so as to lay the foundations for creating the mind maps in class and afterwards. When drawing mind maps in class, the teacher also explains them in detail so that students can master the skills of efficiently drawing mind maps. Students can create some innovations based on the mind map drawn by the teacher to take their own mind maps to a better level. In the meantime, the mind map presented on the blackboard can be a great helper for students to explain the framework of the text, intensify their perception of the content, and help them to retell the entire text.

(1) Lead-in

The teacher plays the music video about animals in this unit and asks the students to sing along with the music.

Before class starts, the teacher uses a mind map to review the words and sentence patterns learnt in the previous two lessons and, while using the mind map, shows pictures of various animals on the screen.

When talking about mammals, the teacher shows a picture of an elephant on the screen to introduce the topic of “elephant” and students discuss about it. The teacher can then judge how much they know about elephants.

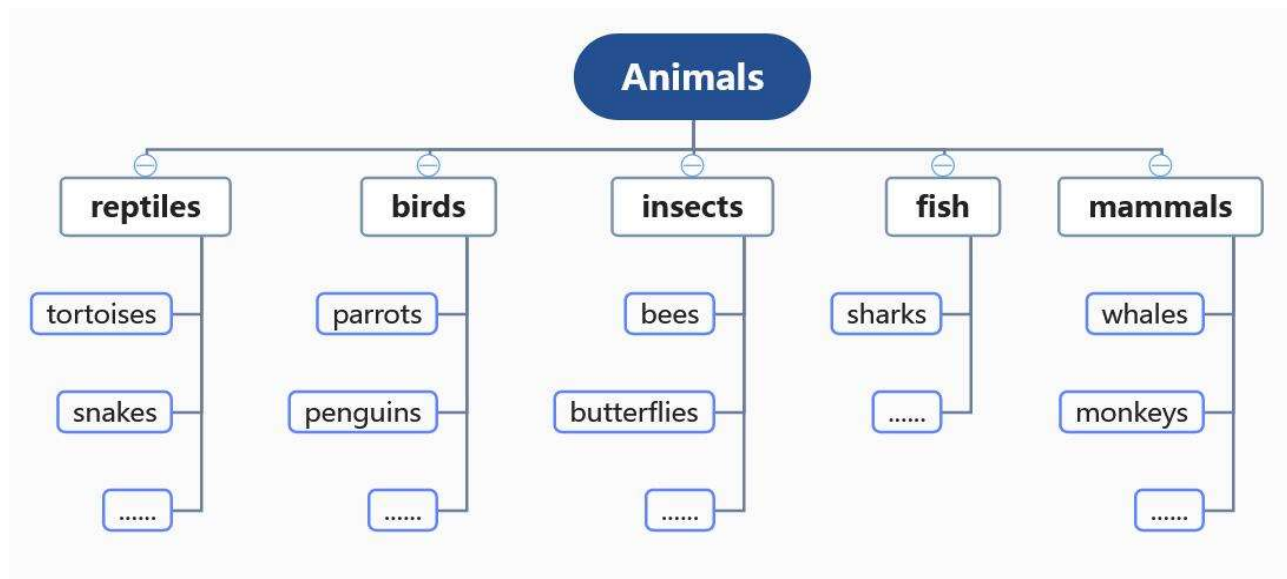


Figure 2. Mind mapping used for reviewing

[Design Intention] Playing music video in class can enliven students’ thinking state, so that students can quickly enter the learning state and concentrate in joy. Before entering the new lesson, the teacher uses a mind map to lead the students to review and practice the key content of the unit. The core of this unit is on learning and mastering the five animal categories. Students use sentences and words during the course of watching animal pictures and mind maps, which is conducive to deepen students’ memory of this unit, so as to facilitate the subsequent teaching activities.

(2) Pre-reading

Watch a short video introducing elephants. Based on the images students see on the screen, they will actively talk and speculate about five aspects of the elephant: category, food, appearance, living place, and activities.

[Design Intention] Watching the video about elephants can give students a preliminary understanding of elephants. The visual video can help students focus and arouse their curiosity. Through the video, the various living habits of elephants are guessed in advance. In order to confirm their guesses, students will scan meticulously and think actively, which will contribute to the next reading process.

(3) While-reading

a. Fast reading

Students read the text quickly and connect the main idea of each paragraph. The teacher then draws these key words in the first-level branch of the mind map.

b. Careful reading

Students finish the mind map by going through the text paragraph by paragraph to find the answers according to the keywords in the five first-level branches of the mind map. Students read by themselves first, then communicate with each other in groups, and finally complete this mind map together.

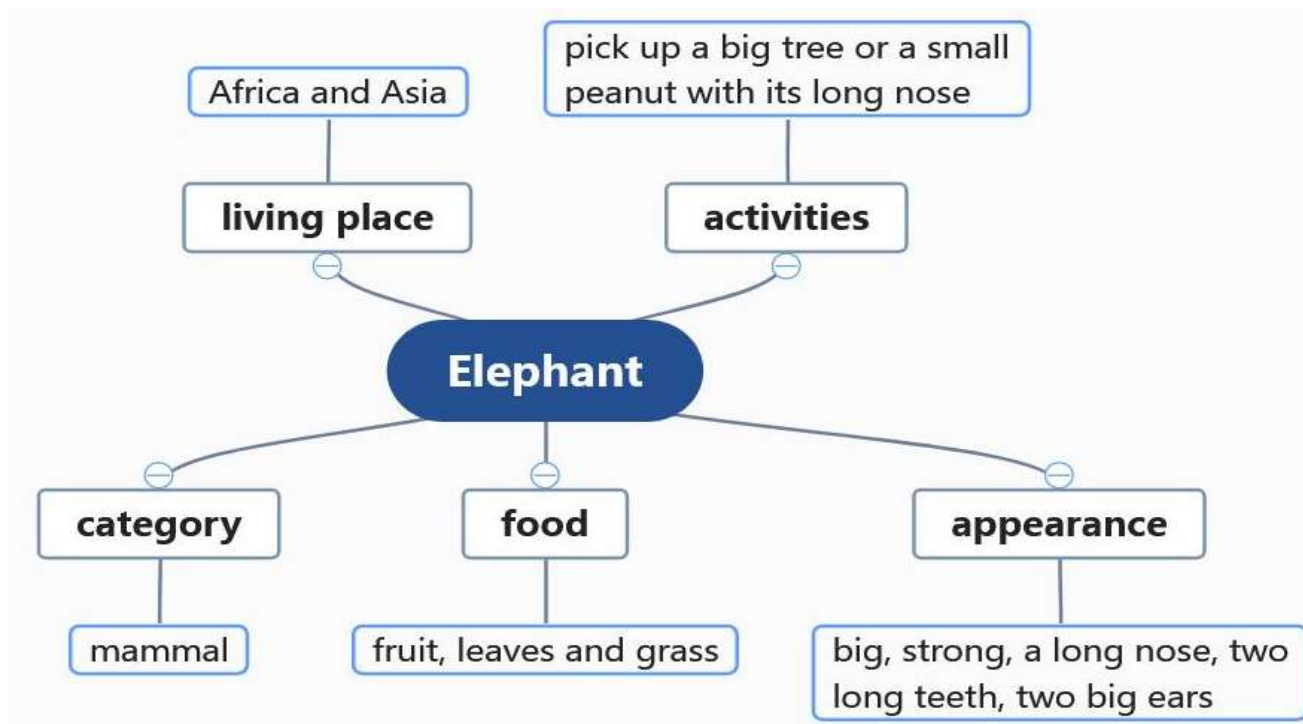


Figure 3. Mind mapping used for reading

[Design Intention] After entering the reading stage, the first thing students need to do is to read the passage quickly to get the general idea of each passage and to clarify what the theme of the passage is. In the general reading, students are able to grip several key messages of the text by connecting the main idea of each section, which become the first-level branch of the mind map. Students then read the text carefully to understand the details, comb the context and build up the secondary branches of the mind map step by step, eventually completing the mind map. In the process of improving the mind map, students’ ability to identify key information can be enhanced.

(4) Post-reading

a. Retell the passage

Students retell the content of the passage based on the perfected mind map.

b. Make a new mind map

T: Let’s think about a question, if we want to introduce an animal to others, what aspects should we talk about?

Ss: We can talk about its category, food, appearance, living place, and activities.

T: You are right. Now please make your own mind maps to introduce your favourite animals.

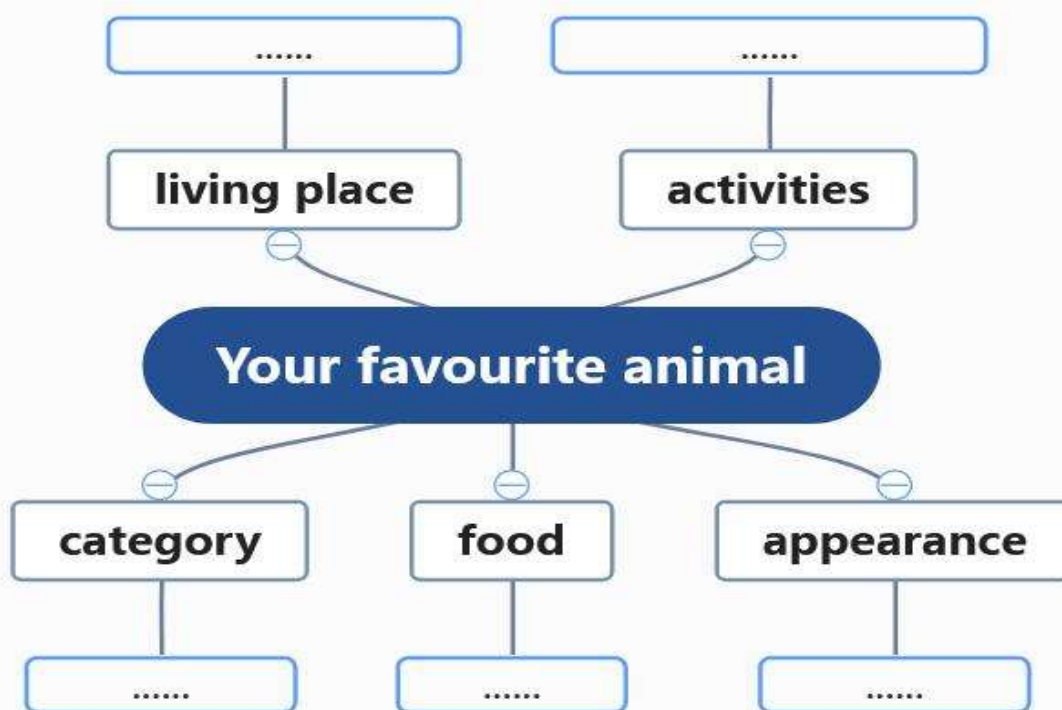


Figure 4. Mind mapping used for introducing an animal

Students follow the elephant’s mind map to make a new mind map, through which they introduce their favourite animals. Students can be creative and add sketches or colors to their mind maps to make them more personalized and distinctive, attracting the attention of others. After completing the drawing of the mind maps, the teacher selects some of the best work to display on the podium. For students who are less effective in drawing their mind maps, the teacher gives them timely encouragement and guidance to help them learn the drawing method of mind mapping.

[Design Intention] Students' retelling of the text according to the mind maps can greatly enhance their retelling effect. Students can completely retell the main content of the text with a strong logic and correctness. During the retelling process, students' understanding and impressions of the text can also be further reinforced. With the help of a clear scaffold of thinking, students can retell the content in a clear and structured way, which can not only achieve the teaching objectives, but also improve the language ability of students. The production of students' knowledge after reading requires the participation of mind maps. Students create brand new mind maps based on their favourite animals, which facilitates the internalization of their knowledge. Before filling in their mind maps, students need to construct a framework of thinking in their minds in advance and have a clear idea of what they need to write in order to complete this task. The purpose of encouraging students to create personalized mind maps is to allow them to find delight and enjoyment in making mind maps. Mind mapping is seen as a piece of artwork, it develops students' emotional interest and allows them to learn in a pleasurable classroom atmosphere, arousing their interest in learning English.

(5) Summary and homework

Summary: The teacher reviews and summarizes the students' performance and mind mapping works in this class, then assigns homework.

Homework: Read the passage at least twice; improve and optimize mind maps to make them more bright; convert the content of the mind map into a short essay about their favourite animal and write a few coherent sentences.

(6) The blackboard is designed as the mind map in the step of while-reading.

3.2.3. Completion Stage of Research

Nearly three months of teaching practice with the mind mapping method have come to an end. During this three-month research, the present author explored solutions to the students' specific situations and the practical problems encountered during the internship by communicating with the co-teacher. At the same time, the present author also did not stop reviewing the relevant literature, trying to make the mind mapping teaching method more in line with the current characteristics of the students in the experimental class and to bring out the maximum effect of this teaching model. Therefore, it is necessary to analyze and sort out the results after the experiment.

The main task of this stage is to test the effect that the two different approaches to teaching English reading had on the students after three months of the internship. The present author compared the students' reading scores on the half-term exam with those of the controlled and the experimental classes to see if there was a difference between the two classes' scores than before. If there was an obvious improvement in the experimental class, it would prove that the mind mapping teaching method works for the primary English reading classroom; if not, it would indicate that the effect of this mode of teaching is not ideal. In addition to analyzing the students' performance, the present author also conducted a questionnaire survey of the students in the experimental class to investigate what changes had taken place after the students had experienced the mind mapping teaching for three months. The results of the questionnaire show that the vast majority of students in the experimental class are overwhelmingly in agreement with the use of mind mapping. They think that after using mind mapping, their reading efficiency has been significantly improved, their thinking logic has become clearer in reading, and they are less bored with their English classes. This shows that mind mapping has the ability to increase the appeal of reading to students and the internal drive of students to learn English, and that mind mapping can be a positive and useful learning tool for students. Finally, the present author selected several students of different levels for interviews to inspect the views and attitudes of experimental class students on mind maps in greater depth. Except talking to the students, the present author also communicated and

discussed with the teachers who participated in the experiment together, making more thoughts and reflections to improve this teaching model. The present author and the co-teacher agree that the use of mind mapping had brought many positive changes to the students in the experimental class, and although the experiment had reached its end, the co-teacher indicated that she would continue to use the mind mapping teaching method in her future English reading instruction, applying all the benefits of mind mapping to all aspects of English learning and improving students' overall English language skills. In the meantime, the co-teacher would also promote the mind mapping teaching method to the whole school English classes and inspire all English teachers to understand, research and practice this highly effective teaching method in the subsequent teaching procedures.

4. Reflection on the Application of Mind Mapping in Primary School Students English Reading

4.1. Analysis of the Influence of Mind Mapping on Students

In order to confirm the effectiveness of mind mapping in primary school English reading teaching, the present author tested whether the three hypotheses put forward before the study implemented were valid through questionnaires, teacher-student interviews, and the half-term English examination.

The experimental class experienced a three-month period of mind mapping reading class. The present author found that, the English reading classroom atmosphere in the experimental class became more vibrant than three months before, students were no longer tired of English reading class, more and more students were able to concentrate and actively participate in classroom interactions with the teacher. The number of distracted students in class was decreasing significantly. One student wrote in the questionnaire: "The mind mapping class is more interesting and enjoyable than the traditional reading class. With the tool of mind mapping, I love English lessons more and more and I hope the teacher will continue to use mind maps to teach us how to read afterwards". Through the questionnaires filled in by students, it is easily found that students' interest and enthusiasm in learning English are distinctly higher than three months ago. Consequently, the use of mind mapping in primary school English reading class proves to be an adequate stimulus for students' interest in learning English and reading English texts. By comparison, students in the controlled class still lacked passion for the English reading class and the classroom atmosphere was dull and dreary. Most students are easily distracted, resulting in poor learning efficiency. Some students with backward grades are unable to keep up with the teacher's classroom pace and have difficulty in understanding the content of the texts most of the time. Whereas some of the top students have already mastered the main content of the class but are unable to expand their knowledge of the text well.

According to the analysis of the quality of the compositions written by the students of the experimental class in the four units studied in the first half of the term, there is a clear progress in the logic of the texts, the richness and fluency of the contents and the grammatical correctness of the students' writings. The use of mind mapping in the reading classes has enabled students to become more deeply familiar with the body of knowledge and framework of each unit, and it is easier to memorize the key sentence patterns of each unit and apply them flexibly to their writings. As the composition topic of each unit is fixed, the mind maps help students to have a profound impression of the key words and phrases in the reading classes, so they are able to write more main points correctly in their writings and improve their writing skills. However, students in the controlled class struggled to fully grasp the key points of reading, let alone transfer them to improve their writing skills. The writing skills of the controlled class are poor, with most students still in a state of not knowing how to write. There are many sentences with numerous word spelling and grammatical errors and lacking

organization in their writings. The fact that the gap between the writing skills of the controlled and the experimental classes is so wide after only three months of experiment demonstrates that mind mapping has a significant role to play in English teaching. If we continue to use mind mapping as a magic weapon, students will be able to take their overall English skills to the next level.

Before the experiment began, the present author believed that when using mind maps to teach English reading, students would expand on the content of the mind maps and make their minds active, thus developing their logical thinking and divergent thinking skills. However, in the actual teaching practice, the present author found that whether it is drawing a mind map according to reading contents or designing a mind map by themselves after reading, students mostly just use the key words in the reading texts to build their mind maps. Most of students rely too heavily on reading texts, since they believe that only in books can they find the answers to complete mind maps, or they depend too much on words and knowledge from English books, which leads to the lack of innovation in their mind maps.

4.2. Deficiencies and Improvements in the Application of Mind Mapping

Nevertheless, due to the present author's lack of teaching experience and ability, the limited amount of literature reviewed and the weak theoretical foundation, there are still some problems and defects in this study, which need to be made for further improvement and exploration.

Firstly, the internship was only three months, which is relatively short, and the present author has just delivered limited classes, so the role of mind mapping for students cannot be entirely played. Improving reading comprehension is not something that can be achieved in a short period of time. It takes a long time to build and progress. The application of mind mapping in the reading classroom also requires a long-term process, so teachers need to work out a long-term teaching plan when time permits.

Secondly, this study only selected two classes of grade six as the controlled class and the experimental class for the research, and did not conduct research on other grades of primary school. Therefore, the survey samples are small and not very representative. It cannot be fully proved that the teaching mode of mind mapping is suitable for English reading classes in other grades. If there are other opportunities, the present author will conduct comparison and verification with more classes of different grades to obtain more reliable and comprehensive research results.

In order to carry out the next step of optimizing and improving this study, the present author expects that more researchers will apply mind mapping to English reading teaching in other grades of primary schools in the future, increasing the teaching time and sample size to explore its effectiveness more scientifically and extensively. This will lead to more unexpected effects of mind mapping in primary school English classes.

5. Conclusion

The educational experiment has shown that the application of mind mapping in the reading classroom can stimulate students' interest and motivation in learning English and reading English texts, and help them to focus on texts and develop good reading habits. As mind mapping is a novelty for primary school students, it can have different lines, colors, drawings, and individualized features. It is favored by the great majority of primary school students. In English reading classes, students no longer read texts in a tedious way, and there is an immense increase in their classroom participation. With the versatility of mind mapping, students will be more interested in designing their own personalized mind maps, becoming positive and active in English and learning in an enjoyable way. The effective application of mind mapping

can improve a situation where students do not understand the content of a text in depth. However, it cannot be ignored that there are still a small number of students who are not able to use mind mapping in their learning available. They need more attention and individual guidance from teachers.

The use of mind mapping in reading classes can promote the cultivation of students' writing ability. Primary school English teachers generally do not pay enough attention to students' writing teaching. They think that as long as they assign recitation tasks and let students recite texts, sentence patterns, and words, so that students can write good compositions. However, in the course of the research, the present author found that many students can transfer the mind maps used in reading classes to their own writing process, so that their writings are brighter and their scores become higher. Writing after reading English materials based on mind maps can provide students with sufficient and high-quality language materials and writing frameworks, provide clear templates for their writings, make their compositions logical, and solve the problem that students are difficult to write. Moreover, students can be more confident and thoughtful when writing as a result.

The third hypothesis of this study fails to hold due to factors such as the young age of primary school students, immature thinking ability, small vocabulary accumulation, weak English foundation, couples with students' excessive reliance on reading texts and English textbooks in reading classes, limited learning resources and limited thinking, which lead to the application of mind mapping to English reading teaching in primary school failing to achieve the desired effect on developing students' logical thinking and divergent thinking skills. During the experiment, apart from a small number of top students who could constantly generate new ideas and think from different angles and directions, the overwhelming majority of other students were unable to break free from the shackles of English textbooks, resulting in their mind maps being very confined in content, not to mention students with learning difficulties, making it even tougher for them to think outside the box. Therefore, teachers need to consciously supplement more extracurricular knowledge to enlarge students' English reserves in the future, increase their flexibility in thinking and learning through association, integration, and diversion.

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