Thinking Visualization based Flipped Classroom for College English Reading

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Abstract

This paper explains and demonstrates how to make good use of thinking visualization tools in college English reading in flipped classroom. To improve the efficiency and understanding of reading material, phased reading goals are set with thinking visualization tools in the reading process. The effective thinking visualization tools are mainly include graphic methods and the software technology for generating diagrams. In this paper, graphic methods are mainly discussed, such as mind map, logic map and used before reading. Organization chart and fish bone diagram are drawn to better understand reading material. Tree chart is employed to do speaking and writing tasks after reading. After thinking visualization tools are applied to college English reading teaching, students' reading efficiency is greatly improved and reading process is better internalized.

Keywords

College English reading; Flipped classroom; Thinking visualization tools.

1. Introduction

As the most widely used language in the world, English is the key subject of college education in most countries such as China. How to effectively help learners acquire English knowledge has always been the common goal for Foreign English teachers. Reading is an important means for people to obtain information in today's society. The acquisition of new knowledge, the improvement of thinking ability and the improvement of social adaptability are closely related to reading. To improve the comprehensive use of English and appreciate foreign cultures, English reading is one of the focuses of English language and culture education, both in theory and in practice.

In all kinds of English tests at all levels, reading and the test questions related to reading (cloze, error correction, writing, etc.) are important ways to assess English ability. For instance, reading part accounts for 35% in College English Test and accounts for 20% in Test for English Majors in China. Therefore, for students now, improving their English reading level and ability will help them understand the passage better, hence enhance their cultural awareness and improve their communication ability.

2. Visualization and Thinking Visualization

Visualization refers to the use of computer graphics and image processing technology to convert data into graphics or images and display them on the screen, and then perform interactive processing.

Visualization technology can be applied in many areas, such product visualization, data visualization, education visualization and thinking visualization. Visualization was first used in computer science and formed an important branch of visualization technology - Visualization in Scientific Computing. Visualization of scientific computing can turn scientific data, including measured values, images, or digital information involved in and generated in calculation, into

physical phenomena or physical quantities that are intuitive, represented by graphic and image information, and change with time and space, and present them to researchers so that they can observe, simulate, and calculate.

Thinking visualization refers to the way to show or illustrate the combination of the original invisible thinking structure and thinking process, showing the thinking path and method to make it clear. Applying visualization to subject teaching can realize presentation of scattered knowledge. (Liu , 2014).

Different thinking visualization tools can be employed though each kind has a specific task. For example, mind mapping is more suitable for systematically sorting out complex knowledge presented as a hierarchical structure; Flow chart and fish bone diagram are more suitable for drawing problem solving process; In specific teaching activities, according to different teaching objectives and contents, Various graphic methods can be combined randomly and flexibly. (Liu, 2014).

3. The Flipped Classroom

The flipped classroom teaching mode refers to reallocating the learning time in classroom. It reconstructs students' learning process. Teachers spend less time on lecture and students need to accomplish learning task by themselves independently before class. Instead of spending classroom time to teach sentence by sentence, teachers could make good use of thinking visualization tools to achieve better educational effects. Thinking visualization tools completely changed the way of presenting knowledge. The effective thinking visualization tools are mainly two kinds: graphic methods (mind map, logic map, bracket diagram, organization chart, tree chart, timeline, fish bone diagram, tree table, etc.) and the software technology for generating diagrams (Mindmap, Mindmanager, XMIND, Linux, etc.) In this paper, graphic methods are mainly discussed.

To improve the reading efficiency and better understand the reading passage, graphic methods and diagrams can be applied throughout the reading process. Teachers can understand students' English reading difficulties in advance, and then give effective guidance in the classroom using graphic methods to promote the process of students' knowledge acquisition.

After students learn to use the thinking visualization tools, it would be more convenient and efficient to do reading comprehension. Students' writing level would also be greatly improved based on drawing the logic order of passage structures. Thinking Visualization tools can be employed before reading, during reading and after reading. The follow-up teaching design enables students to grasp the meaning of reading material and to write with confidence, which is conducive to students' real understanding of learning materials.

4. Teaching Design of Target English Reading Material

A reading passage usually involves many elements to understand, including both main meaning and specific details. To check students' understanding of the whole passage, the questions for reading passage are usually as follows. *What does the passage mainly talk about? What does the text talk about?* To check the locations of the specific details, the questions for reading passage would be like these. *Why does the author say life at college is the most glorious phase of life? Why does the author say "the learning never ends" in the text? What are the factors that contribute to ambition?*

To solve the above problems, phased reading goals should be set with instructions in the reading process.

Before reading, students are required to draw graphic maps to help them stimulate background information according related videos. Make sure the authenticity of the language materials at

the same time. For instance, in the text "Ambition: Do You Need It to Succeed?" in unit two of *Integrated Course*, there are four speakers in the video before reading. They respectively state the definition of ambition in their views. Students can use the map shown in Diagram 1 to clarify their ideas. With the help of this diagram, students will be more confident about the upcoming reading content.

Diagram 1

The following diagram is a good example of logic map for generalizing the meaning of video material before reading.
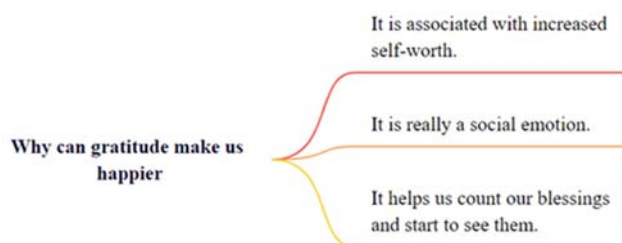
Diagram 2

During the reading, a diagram can be applied to make clear the structure and logics of the reading passage. Instead of reading the passage over and over again to waste time and energy, students are expected to draw the diagram to help them make it clear and understand. Also in the text "Ambition: Do You Need It to Succeed?" It would be hard to students to grasp the emphasis of the passage. The text starts with Mike Coney's real story. Later it includes factors contributing to ambition. And the author lists views of different people. Most students feel hard to grasp the very heart meaning of the text. Why the author analyzes the factors instead of telling stories only? And why views from different people are added? However, it would be clearer to look at the following organization diagram.
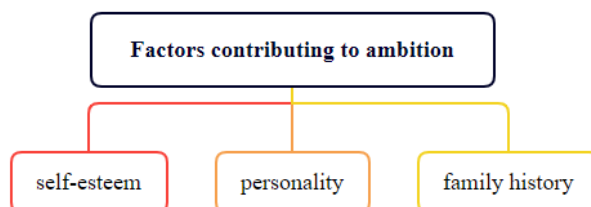

Diagram 3

The third part of the text includes different views of people regarding the definition of ambition. Students may confused with different views and mistake each view for the others'. The fish

bone diagram could help students figure out each person's view and understand why each view is listed on purpose.
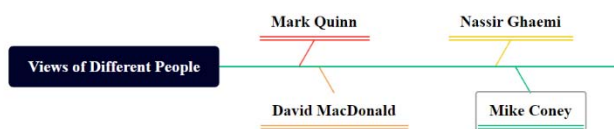

Diagram 4

After reading, students are asked to present the passage content orally or write the summary of the passage. The assignments are: "suppose you are to share this story in the WeChat circle of your friends, now prepare a video of five minutes to retell the charming story in your own words" or "write a summary of about 150 words to summarize what you have learnt from this text". Students are afraid to do passage retelling and summary writing because they even haven't made out the meaning and structure of the reading material. When diagrams are used, they visually know what to say and how to say, what to write and how to write, which can be illustrated in the following diagram for unit three of *Integrated course*.
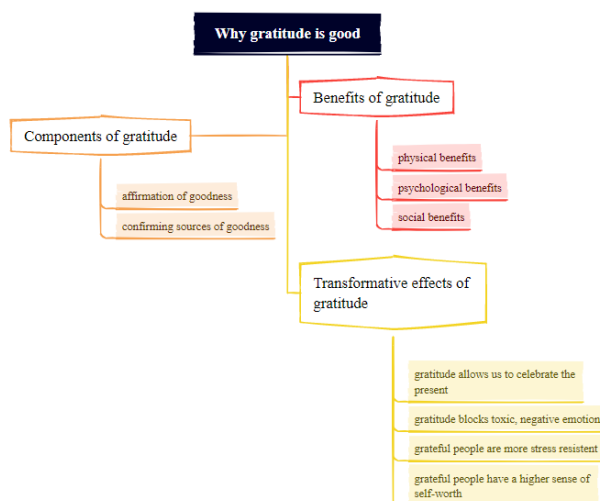

Diagram 5

Generally, teaching design for students' English reading process consists of three stages: the first stage is "information brainstorm", which is realized through the diagram based on the video understanding or any other kind form of preview before reading. The second stage is "input understanding", which is drawn according to the logic structure of reading material. The third stage is "output internalization", which is completed by students themselves after class, either for speaking or writing task. The whole reading process make students feel confident and motivated to achieve English reading success.

5. Conclusion

In traditional English reading class, college students are lack of background information for reading. The classroom is full of teacher talk and lecture. Besides, low efficiency in English reading is very popular among college students because of unclear logic structure. Therefore, students are lack of innovation ability in English reading.

A good use of thinking visualization tools can improve the interest of college English reading and expand English reading resources before reading. And also it could reduce the difficulty of English reading during the reading process. Most importantly, reading and writing are closely intertwined with each other. Improving reading efficiency could in turn help achieve writing success.

Acknowledgments

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