Research on the Application of Mind Map in the Teaching of "E-commerce"

Lan Dai *, Song Hua, Yang Yu

Shandong Institute of Petrochemical Technology, Dongying, China

* Corresponding Author Email: dailan0715@163.com

Abstract. As an efficient thinking tool, The Mind Map has been widely used in many industries. This teaching reform of E-commerce is based on the educational concept of "true education is a heart-to-heart activity, only from the heart can it touch the depths of the soul". During this process, students choose projects independently and apply mind maps in the teaching design of E-commerce. The teaching part adopts "mind map + optional project" and "mind map + word process document". The review part adopts "mind map + ppt Lectures" etc. After teaching, the evaluations of learning effort are made through the observation method and the survey method by the teachers and students. The results of the teaching design integrated with mind map found that this method is conducive to improving the students' notes and contributing to exchanges among group members. this reform achieved a result with better learning effects and performances in competition. Therefore, the mind map is a tool worthy of applying in note management, team collaboration, reporting and summarizing.

Keywords: The Mind Map; Teaching Reform; E-commerce.

1. The Understanding of the Mind Map

1.1 Definition and Software Selection of the Mind Map

The Mind Map, also known as Brain Map, Concept Map or Brainstorming Map, is a tool for expressing divergent thinking and image-like thinking. It is an aid tool for image-like thinking, which is invented by Tony Bozan, the famous "Father of Memory" in the UK. This thinking tool is one of many visualization tools, which consists of central maps, trunks, branches, key words and small icons.

There are many The Mind Map applications on the market. The mind Map applications used by the author include XMind and MindMaster. XMind is simple to draw covers. It could also support brainstorming and presenting your ideas in thematic order through demo mode. MindMaster has powerful functions like using custom templates to generate personalized maps in batches. Subsequently, it is convenient to make a map transfer through scanning a QR code. Both applications have their own advantages. The software used by the students in this article is XMind.

1.2 Technical Requirements of the Mind Mapping

To draw a mind map, we must determine a theme firstly. Then draw around this theme part. In the process of drawing, we need to follow some principles.

The first principle: the extracted words are keywords. Keywords are the smallest unit. The extracted keywords are mainly nouns, nominal phrases, adjectives and etc.

The second principle: categorize into groups at different levels. Categoring requires learners to have a kind of abstract thinking. Only by abstracting, can we better categorize different groups.

The third principle: the different keywords with the same logic are at the same level. The meaning of this sentence could be explained by citing figure 1. the composition of e-commerce business models has "Market Positioning", "Target Customer", "Core Product" and so on. The central theme "The E-commerce Business Model" includes "Market Positioning", "Target Customer" and "Core Product". Subsequently, under the guidance of this logic, the three key words, "Market Positioning", "Target Customer" and "Core Product", should be placed on the same level, the secondary level.

The fourth principle: the MECE principle, that is, the principle of no repetition and no omission. This sentence is explained using 1. The "business model of e-commerce" consists of five parts: "market positioning", "target customers", "core products", "marketing model" and "profit model".

These five parts the relationship is independent of each other, and the five parts are the content of "business model of e-commerce", and no part can be omitted.

1.3 The Scope of Application of Mind Maps

Mind map has a wide range of applications, it can be applied to the organization and visualization of knowledge, language learning and divergent thinking. Mind maps can be used to organize knowledge, Han Wei pointed out: Mind maps can establish the connection between topics and knowledge points, which will help students improve their logical thinking and language expression skills, build confidence and cultivate children's Capability has important value [1]. Mind maps can also be applied to language learning, Gu Min pointed out: Relevant teacher education institutions and research institutions should plan to train teachers to consciously integrate mind maps when teaching various language skills and language knowledge [2]. Mind maps can also be used for divergent thinking. Yan Shouxuan pointed out that mind maps can improve classroom teaching efficiency, stimulate students' interest in learning, promote unity and cooperation between teachers and students, integrate scattered knowledge, and cultivate students' divergent thinking ability [3]. Mind maps can also be used to visualize knowledge. Zhang Haisen pointed out: through research in recent years, mind maps have played a role in realizing the integration of learning content graphically, thinking process visualization and knowledge, improving students' interest in learning and assisting It is of great significance for students to learn and find their motivation [4].

2. Practical Application of Mind Mapping

2.1 Mind Mapping Class Pre-Learning - Form a Framework and do a Good Job of Previewing

Compared with high school courses, college courses are more complex and cumbersome, and the knowledge system is larger. Effective pre-class preview can allow students to have an early perception of the course content and allow students to keep up with the rhythm of the course. For preview, the method adopted by teachers is to select video lessons and questions related to the next lesson. Students are required to watch the video lessons and answer the questions in the video lessons. Students who are capable can use mind mapping software to draw the answers to the questions.

2.2 Classroom Inquiry of Mind Map-grasping the Core Concepts and Key Points

This class exploration is based on Mr. Tao Xingzhi's "Teaching is one thing, not three things. We must teach by doing, and learn by doing. If we don't put effort into doing, teaching will not become teaching, and learning will not become "Learning" as a teaching guide, teaching is integrated with each other, highlighting teaching and learning. The teaching method used in the course is group study, with 5 to 6 people as a group. After the group is divided, the project of the group is determined, and then the teacher will explain the theoretical knowledge. The teaching process requires students to use mind maps, simplify the content of notes, and use keywords. In the form of extracting key content, so as to efficiently record the content of the class. Students are required to consciously understand, analyse and summarize knowledge. Take the second chapter as an example, you need to refine the meaning and composition of the e-commerce profit model.

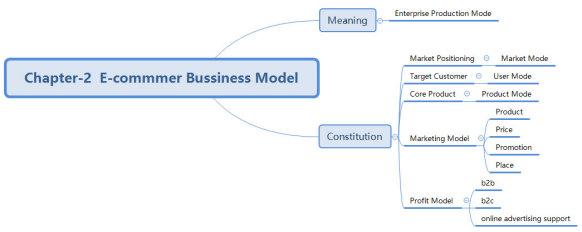


Figure 1. Knowledge Points in Chapter 2 of E-commerce

Figure 1 shows the relevant content map of Chapter 2.

After each group is divided into groups and determined their own projects, the next two forms are used to carry out the classroom development.

The first method is to use the form of "Optional Project + Mind Map". The optional project is to choose the projects which students are interested in. The Mind Map is to record knowledge points. The knowledge points recorded in the map are required to be applied in the project. This project can be based on existing enterprise or a design by themselves. Taking the first group as an example, the project they chose is an existing enterprise, Jingdong company. They used the map to organize the knowledge in Chapter 2. Figure 1 shows the knowledge points in Chapter 2 of e-commerce. Students need to understand that knowledge points correspond with "market positioning", "target customers", "core products", "marketing model", "profit model" and etc. For example, the market positioning of JD.com is "China's largest online shopping mall for computers, digital products, communications and household appliances", which is necessary to supplement the information into the framework of theoretical knowledge. The interest in what students need to learn is conducive to mobilizing their enthusiasm and initiative [5]. They choose the projects they are interested in, and gradually integrate what they have learned into their own projects, taking students as the main body and improving their autonomy and creativity. The mind map plays the role of knowledge sorting in this process, such as "e-commerce business model". JD.com's e-commerce business model is shown in Figure 2. The map can clearly divide the "e-commerce business model" into "Meaning" and "Constitution". It will be more precise and also speed up your understanding and absorption of these concepts by understanding and using "market positioning", "target customers", "core products", "marketing model" and other content in the map. If you choose a project designed by yourself, you also need to take into account the actual application effect. You need to analyse and compare the modes of many projects, and even innovate in a certain link to achieve the feasibility of the basic realization of the project. Therefore "Optional Project" +Mind Mapping" method plays an important role in the examination and cultivation of students' comprehensive ability, and truly allows students to "turn passive into active".

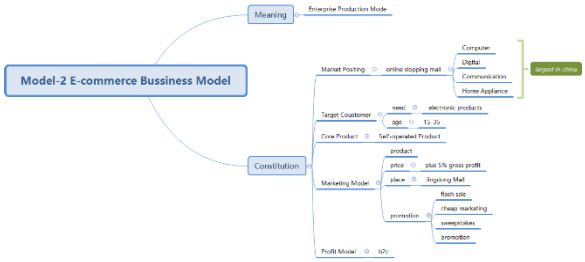
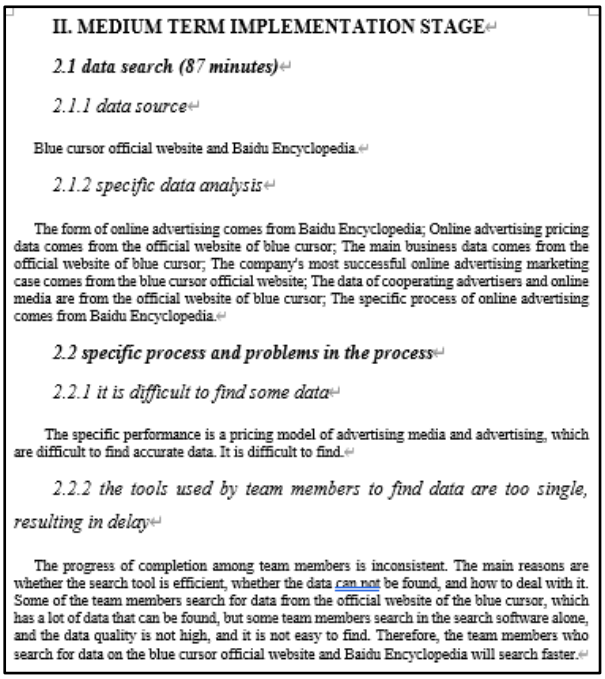


Figure 2. Jingdong thinking map

The second method is to use the form of "Word + Mind Map". Word is a process document, which records the collaborative process between team members. The mind map is the refinement of the content of the word process document. The Word process document is in the form of a running account. The purpose is to restore the entire project process thoroughly. The collaborative process of the group includes the discussion content, the problems that arise among the team members, the reasons for the problems, and the solutions to the problems. plan etc. Mind map can be used as a feedback tool in teaching [6]. Mind map presents the content of the process document in the form of key points, structure and logic. Give feedback indirectly against the map to avoid the same problem in the next lesson. Therefore, "word + mind map" is a combination of expansion and convergence. Only expansion, no convergence is like a fish in a pond, without a net, and mind map is the big net, a visual and structured presentation of mind ma.

The mode can catch the big fish, but not the unimportant water and small fish. The big fish is the core content, and the water and small fish are the less important content in the word. Therefore, the mind map is a feedback tool at this time. By analysing the content of the map, the same problem can be avoided next time, forming a virtuous circle and continuously improving the operation efficiency of the entire team. The process document is shown in Figure 3. From this process document, we can

see the time spent by the team in the process of their project, the source of the data, the problems encountered in the entire project, and then based on the content in the process document, a process document map is made. The corresponding process document map is shown in Figure 4. We can clearly know the details encountered in the specific implementation of the entire project from the process document map. Mind map is the extraction of process documents. The extraction is presented in the form of keywords, which is clear and clear, which greatly facilitates the communication and negotiation between team members, improves communication efficiency, and speeds up the progress of the project.



II. MEDIUM TERM IMPLEMENTATION STAGE

2.1 data search (87 minutes)

2.1.1 data source

Blue cursor official website and Baidu Encyclopedia.

2.1.2 specific data analysis

The form of online advertising comes from Baidu Encyclopedia; Online advertising pricing data comes from the official website of blue cursor; The main business data comes from the official website of blue cursor; The company's most successful online advertising marketing case comes from the blue cursor official website; The data of cooperating advertisers and online media are from the official website of blue cursor; The specific process of online advertising comes from Baidu Encyclopedia.

2.2 specific process and problems in the process

2.2.1 it is difficult to find some data

The specific performance is a pricing model of advertising media and advertising, which are difficult to find accurate data. It is difficult to find.

2.2.2 the tools used by team members to find data are too single, resulting in delay

The progress of completion among team members is inconsistent. The main reasons are whether the search tool is efficient, whether the data can not be found, and how to deal with it. Some of the team members search for data from the official website of the blue cursor, which has a lot of data that can be found, but some team members search in the search software alone, and the data quality is not high, and it is not easy to find. Therefore, the team members who search for data on the blue cursor official website and Baidu Encyclopedia will search faster.

Figure 3. Screenshot of some process documents

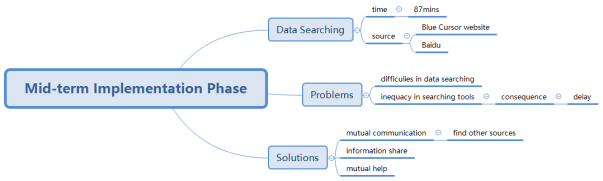


Figure 4. Partial process document map

2.3 Mind Map Summary Improvement - report Consolidation, Efficient Memory

The feedback summary after class is in the form of a "mind map + ppt" speech. Taking advantage of the visualization features of mind maps, mind maps are a reporting tool. At this time, the content of the map includes three parts: theoretical knowledge, the analysis points of the whole project and the word process document, while the ppt shows a map one by one. By viewing the map content and the reporter's explanation, the remaining groups can clearly know the reporter's mastery of theoretical knowledge, project problems, and problems arising from group collaboration. Ask questions on the spot, and then score the report at the end. The quality of the whole project accounts for 60% of the total score, and the report accounts for 40%. The two parts together constitute 70% of the usual score, and the attendance rate accounts for 30%. And because the reporter needs to report the project according to the map, in the process of reporting, the reporter memorizes the content of the map again. It has the effect of long-term memory, so the ppt lecture has a better effect of reviewing and memorizing knowledge points. Reporting and consolidation, reviewing, and completing a better closed loop of learning.

3. Reflection on Teaching Effect

3.1 Optimize Students' Classroom Notes and Improve Learning Efficiency

3.1.1. Notes are More Refined

The mind map requires the recording of keywords. This keyword can be the extraction of sentences in the book, or it can be a keyword after thinking about it. This requirement also reminds students that the notes recorded in class should be a collection of keywords. This can greatly reduce the burden of recording and memory for students.

3.1.2. The Content of the Notes is More Comprehensive

As a divergent tool, mind map can conduct divergent thinking based on the keywords of the main branches in the front, and the divergent content is more logical. Compared with the traditional note-taking method, students can use the mind map to learn independently, which greatly optimizes the recorded content and improves the learning efficiency.

3.2 Optimize Feedback, Team Members Cooperate More Efficiently

"word + mind map" teaching mode, mind map as a tool for knowledge sorting, summarizes and converges the content of the word process document, and draws a map around the problems in the group, the reasons for the problems, and the solutions to the problems. The content of the map is clear and the key points are distributed. At the end of this class, the groups will give feedback according to the map, which can well avoid the same problems in the next class, and make the cooperation among the team members more coordinated and improved. It improves the efficiency of task completion and the participation of each member, allowing more time to be spent on project analysis and discussion.

3.3 Obtained a Good Learning Effect

3.3.1. Knowledge has Been Improved

This time, the teaching reform of introducing mind map, because of the requirements of practical application, students can choose the items they are interested in for analysis, which improves the students' interest and stimulates the students' awareness of independent learning. As a tool, mind map helps students to efficiently sort out knowledge inside and outside the classroom and assist students to complete projects, so students' understanding and mastery of knowledge have been greatly improved.

3.3.2. Ability and Literacy have been Improved

Through the course format of "Optional Project + Mind Map", students have exercised their practical application ability well in the process of polishing their own projects. The ability to see certain business models more thoroughly, to analyse a company or project more comprehensively, the analysis ability has been greatly improved, and to have their own judgments about the existing e-commerce applications.

3.4 Output of Classroom Results

"Action is the beginning of knowledge, knowledge is the achievement of action." With the help of the Mind Map, some projects are produced by several students’ groups. After a year of improvement, they make breakthroughs in feasibility, profitability and innovation. There were six teams participating in the Eighth College Students in Shandong Province Contest of Electronics and information technology application. We have won one provincial second prize and four provincial third prize respectively in this contest.

4. Conclusion

"Education is the foundation of a country", especially the higher education. University curriculum reform requires multi-dimensional cultivation of innovative thinking, practical skills and exploration ability of college students. It is necessary to actively explore new ideas and new methods of teaching reform. A strong role exists in the introduction of The Mind Map into the design and teaching of college courses, which helps cultivate innovative thinking and independent learning ability. It is worth our front-line teachers to continue to explore its teaching methods and approaches.

Acknowledgments

2021 Shandong Province Education Science "14th five-year plan" project support (No: 2021 qzc 005).

2022 School level education reform: Teaching reform and practice of integrating innovation and entrepreneurship into the "E-commerce" course in the context of the new business curriculum (No: JGYB202239).

References

[1] Han Wei. Teaching Design of "Thermal Circulation" Based on Mind Map - Application of Mind Map in Geography Teaching in Senior High School [J]. Geography Teaching, 2019(04):20-24.

[2] Gu Min. Interpretation of high school English reading texts integrated with mind maps [J]. Teaching and Management, 2014(13):45-47.

[3] Yan Shouxuan. Mind Mapping: A New Path to Optimize Classroom Teaching [J]. Education Science, 2016, 32(03): 24-28.

[4] Zhang Haisen. 2001-2010 A review of the application of mind mapping in education at home and abroad [J]. China Electrochemical Education, 2011(08): 120-124.

[5] Cui Shuang, Wen Hengfu. Reasons and improvement strategies for low classroom efficiency of college students [J]. Modern Education Management, 2014(09): 100-103.DOI: 10.16697/ j. cnki. xdjygl. 2014. 09.018.

[6] Hui Linghui. Research on the application of problem feedback strategy based on mind map in high school information technology classroom [D]. Central China Normal University, 2021.

[7] Yuan Keming. University Curriculum Reform and Practice Based on Cultivation of Innovative Talents [J]. Journal of Jilin Education Institute (Early Ten Days), 2015, 31(01): 37-38. DOI: 10.16083/ j. cnki. 1671- 1580.2015.01.0.