

Learning Promotion Method Based on Concluding and Peer-assessment of Mind Maps

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Abstract—The current situation of college students' learning is a certain Buddhist-style. They learn individually and passively, and in poor state, weak in ability, low in quality and in weak atmosphere. To deal with it, this paper puts forward a method of learning promotion. In the process of course teaching, organize students in groups, and ask the groups to conclude the knowledge of each course unit to mind maps. Then in a certain kind of hierarchical organizational model, make mutual evaluation and select the best map. Through the activities, improve the learning quality of all students of the whole class. This method is easy to operate and comprehensive in effect, and has a long-term impact. It is generally suitable for theoretical teaching of any course and by any teacher. And it can effectively promote the remarkable improvement of college atmosphere and teaching quality.

Keywords—Mind map; Learning method; Higher education; Course teaching

I. INTRODUCTION

As higher education in our country stepping from the stage of popularization to universalization, and with the action of 'genes' of the Times, Buddhist-style is quite common among contemporary college students. Especially in local ordinary universities, a large proportion of students have weak learning objective, interests, enthusiasm, consciousness, self-control and learning capacity, and the rate to raise their head in classrooms is relatively low. Some students will preferentially select to listen to the class, frequently skip classes or take naps, play games, or cellphone in classes, and hold indifferent attitude towards their studies, performance, and whether they will fail an exam, graduate successfully regardless of considering their future way out. Besides, there are also some students who cannot find the suitable learning mode. They cannot remember them in mind, or fully understand all the learning contents. The learned knowledge cannot form a system, or be fully integrated, internalized and converted accordingly. They will soon forget them after the examination, and have formed acquired helplessness for learning. Nowadays, the internet communication network can extend in all directions, with plentiful and easy-to-get information and communication media. Besides, there are too many online and offline attempts, and so many things more interesting than learning. A large proportion of students will lose their ambitions, and spend less time in independent learning, without forming good learning habit. In respect of the lack in learning ambition and pursuit as well as the overall learning atmosphere on campus, there are

few opportunities for students to have mutual communication and research about learning problems, the driving effect of overall learning atmosphere on the individual learning of students is small, and most students fight alone in their study. Therefore, it is common to see conscious and talented students have basically stable and good learning status and score in universities; As for students with poor or general performance, no obvious positive changes are rarely seen under group driving effect.

From the perspective of teachers, it is a common dilemma to have more students, but few teachers in most universities, especially local universities and private universities. Besides, in view of teachers' low treatment, scientific research pressure and other positive and negative reasons as well as the unchanged teacher performance evaluation guidance based on papers in universities, except for normal classroom lectures, few teachers have the intention or more spare energies to supervise and guide students' study in details. Some teachers and courses won't arrange or check students' usual homework, so it is difficult to timely master, evaluate and regulate students' learning effect, until the last moment of the final examination. Except for privately complaining the bad performance of students, most teachers won't adopt applicable methods to promote students' enthusiasm to learn all courses and the corresponding effect.

II. THE IDEA OF LEARNING PROMOTION

The cramming teaching mode in the classroom of universities based on tasks as well as "playing" or "muddling" mode of partial university students are the common phenomenon of current universities and have even become a normality. It is under the background of utilitarian and impetuous education attitude in China as well as the background of enrollment expansion in universities, the gold content of diploma decreases, while university graduates are facing more severe employment situations, social success mode goes against successful learning mode, then causes confused and psychological gap. Under the condition that the political and economic environment cannot be changed in essence by individual force or local force, how to improve the learning status and course learning quality of college students obviously? By referring to the research results of other scholars in combination with my teaching practice, I have put forward the following ideas to improve learning, to systematically solve

the problem under the condition of no obvious increase in the burden of teachers and students.

(1) Reinforce the degree of participation and interests in learning. Promote students to consciously or unconsciously participate in key learning process by designing suitable procedures and activities; By vivid and diversified forms of course contents and competitive activities, increase the enjoyment in learning process, guide students' interests in the learning process, then gradually cultivate learning interests in interesting learning experience.

(2) Master correct learning method. By granting tools and teaching methods, promoting students to use them continuously and to cooperate and help each other in their groups, students can master applicable and valid learning methods in their experience, increase their learning capacity, and reinforce their learning confidence and desire.

(3) Timely provide evaluation, feedback, guidance and motivation. In students' course learning process, adopting suitable organization mode and arranging activities, to get a minor-cycle and timely evaluation and feedback of surrounding students and teachers, in view of the individual and group learning status and periodic performance, and to timely acquire guidance and motivation, help students have a clear understanding about and reflecting on their own status, find out the goal and method, reinforce learning motivation and improve learning quality constantly.

(4) Establish a communication and learning atmosphere. Try to adopt more group tasks and routinize group-autonomous learning mode, so as to promote the formation of group learning communication habits, and to avoid students from being lazy and lost in individual learning. Driven by the group and the atmosphere, students will acquire the organization belonging and common sense of mission, in view of learning, and can solve their learning difficulties and problems timely by mutual assistance, then jointly form a virtuous learning cycle to strive for the best and make progress.

Based on the learning method of knowledge mind map concluding and peer-assessment, this paper is a learning promotion method that meets the aforementioned ideas. In the course teaching process, students will be organized to form groups, then collect the learning contents of each teaching unit by mind map, then implement inter-group mutual scoring and optimal selection as per certain layer of organization mode, then select the optimal. This process can improve the learning quality of all students.

III. ABOUT MIND MAP

Being invented by Tony Buzan, a famous psychologist in Britain, mind map has become a high-efficient learning and working tool commonly used worldwide. Currently, above 400 million people worldwide are using the mind map, including many global famous enterprises, such as IBM, Oracle, HP, Google, Microsoft, Lenovo and other scientific and technical companies as well as HSBC, JPMorgan, Goldman Sachs, GM, British Petroleum, Disney, Boeing and other world's top 500 enterprises; Some countries, such as Singapore, even list the mind map into the compulsory subjects for primary schools;

The research and application of mind map has already had promoted in China for above twenty years. Currently, training courses and school-cooperated projects related to the mind map learning method are quite popular among people. The mind map is actually a graph, which starts from a central keyword or idea, connects relevant themes, key points, projects, etc. by radiation lines, adopts figure and text combined diagram mode, to express the relations of all levels of themes by mutual affiliation and relevant hierarchy figures, then establish memorizing links between theme keywords with the icon, color, etc. Integrates scattered knowledge points, represents it in a figure, forms pictorial structure or classification, applies it in memorization, learning and thinking, and helps people summarize, memorize and expand thinking. The mind map is not only a disruptive thinking tool, but also an effective thinking mode. By making full use of brain intelligence and combing mind memorizing and thinking rules, it can effectively improve learning or working efficiency to 70%. The mind map will organize and connect knowledge effectively, make the knowledge learned by students systematic, regular and structured, change the knowledge system into graphic thinking tool, even realize fast reading, and understanding of articles, making notes or writing articles by virtue of the mind map. The mind map can help learners learn how to observe, summarize, collect, think, analyze and review in orders comprehensively, efficiently and specifically, how to think independently, help learners fast clear their ideas, build knowledge frame, and improve learning efficiency. As for discipline learning for students in universities, mind map can help them memorize based on understanding and realize structured thinking, improve students' structured thinking, logic thinking, dialectical thinking, questioning awareness, creative thinking and other capacities.

IV. OPERATION SCHEME

The learning promotion method is based on the concluding and peer-assessment of mind map, and can be applied in each teaching unit of courses taught by teachers, to increase the link of group review among students. The activity regards mind map software and voting software as the tool, student groups as a working unit, focuses on spare time, and is carried out by adopting autonomous and progressive competition mode among students. The optimal knowledge mind map of the teaching unit will be selected by students' group contributions, multi-layer optimization and group evaluation. Students will share learning achievements, and regard them as the teaching achievement data for accumulation. Meanwhile, group members will mutually evaluate and grade their working performance, and the group of optimization level will evaluate and grade the achievements acquired by the former level of contribution group, and all students will evaluate and grade the achievements acquired by the final groups of optimization level blindly, and the weighted average of the score result will be regarded as the main usual result of each students in this learning phase. Teachers will provide members of the final winning group with certain material reward or spiritual reward. Teachers will change the level of student groups in different teaching units, to ensure fairness and freshness, and help students comprehensively exercise their roles.

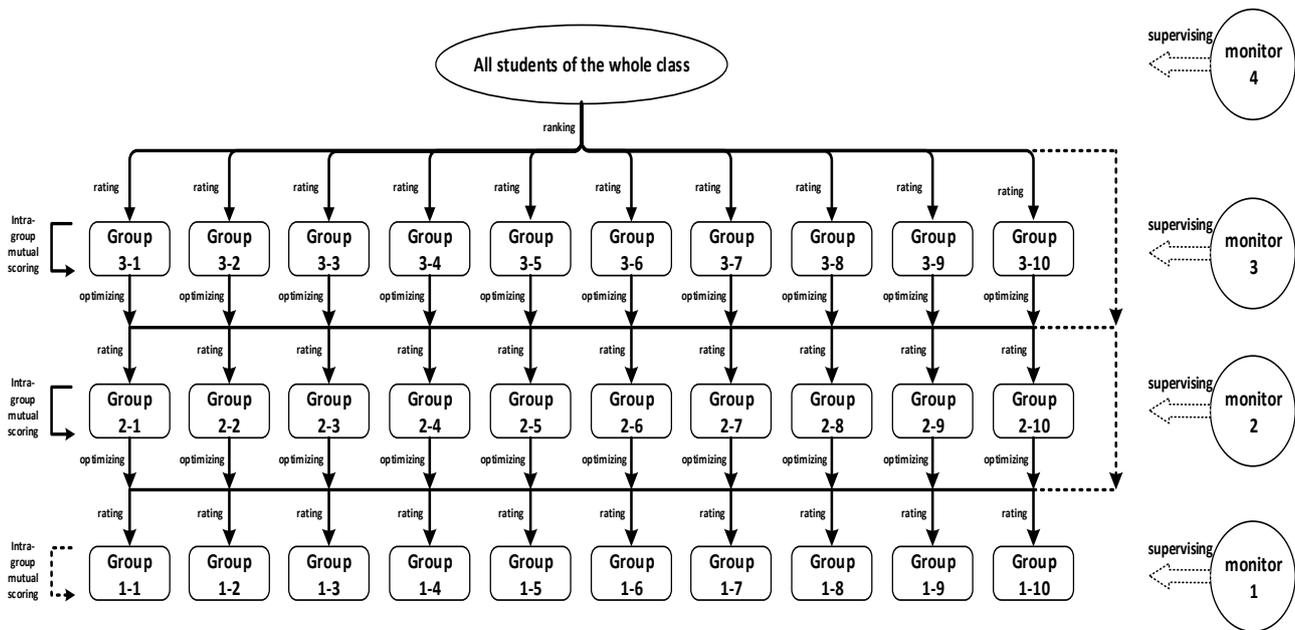


Fig. 1 Organizational model of the implementation plan

As shown in Figure 1, the specific operation scheme is as shown below:

(1) Divide and number the teaching class into a small group as per 3-5 people, select 10-30 groups, with each group selecting their own leader.

(2) Divide all groups into three parts approximately, make them in three levels in Figure 1 as per the work task, then arrange the monitor (such as the head of the administrative class) to organize and supervise each level of the work respectively.

(3) Firstly, the mind map of knowledge in the course unit will be respectively concluded by regarding groups as the unit in the first level (i.e., the bottom level), then send to the instant communication group (such as QQ group) or specified computer server of the teaching class after numbering the mind map as "mind map 1-i" (i=1,2, ...) by groups.

(4) Secondly, the knowledge mind maps provided by the groups in the first level will be respectively rated in the second level by regarding groups as the unit (by voting software). After optimizing by referring to such mind maps, send to the instant communication group (such as QQ group) or specified computer server of the teaching class after numbering the mind map as "mind map 2-j" (j=1,2, ...) by groups.

(5) After that, the knowledge mind maps provided by the groups in the second level will be respectively rated in the third level (i.e., the top level) by regarding groups as the unit (by voting software). After optimizing by referring to such mind maps (as well as the mind maps provided by the groups in the first level), send to the instant communication group (such as QQ group) or specified computer server of the teaching class after numbering the mind map as "mind map 3-k" (k=1,2, ...) by groups

(6) Finally, all students of the teaching class will rate the knowledge mind maps (by voting software) provided by the third level of groups respectively, then implement the ranking of these mind maps (and the mind maps with high rating in the first and second level), evaluate the optimal knowledge mind map of the teaching unit. Students can share the learning achievements, while teachers can accumulate it as the teaching achievement data.

(7) Each group will implement intra-group mutual scoring (by the voting software), in respect of the working performance of group members.

(8) Teachers will calculate the weighted average of intra-group mutual scoring among group members in the voting software and the group score as the main usual performance of each student in the current learning phase.

(9) Teachers will comment and explain the knowledge mind map competition and selection work and the result in classrooms, then provide material rewards or spiritual rewards to the final winning team.

(10) Teachers will change the level of the groups, prepare for concluding and peer-assessment the mind map of knowledge in the next course unit.

The knowledge mind map concluding and peer-assessment activity in each cycle mentioned above will be completed in about a week. Mind map tool software can adopt Baidu Mind Map, Xmind, etc., and the voting tool software can adopt SO JUMP, and Tencent Voting, etc.

The key for such learning promotion method is to make planning, material preparation, training and whole-course management. Firstly, it is to make plans for dividing course units, and student grouping, activity progress and grading, selection, scoring and other rules, and select tool software; Secondly, it is to compile the instructions, including software

tool operating manual, task operating manual, evaluation standard and relevant work details; Thirdly, it is to train students in advance, make them get familiar with the task and game rules, skillfully master the tool and operating method; Fourthly, it is to arrange and manage the whole course of the activity, give full play to the coaching effect of teachers, provide guidance, comments and awards timely, and handle it well as the top priority.

V. CHARACTERISTICS AND FUNCTIONS

By adopting the learning organization mode based on course knowledge mind map concluding and peer-assessment, student groups will cultivate team spirits, reinforce their friendship, build learning communication atmosphere, learn from each other and make progress while jointly completing the task. The confrontational and election process of teams' work achievements mainly motivates all students' learning interest, passion, sense of participation and honor by competitive and interesting mode, and realize the learning effect of episodic memory; Change cramming and passive individual boring study into autonomous, collective, immersed and experienced study, to gain a better learning effect; The individual can gain timely and objective feedbacks about learning attitude, cooperation, learning effect and capacity by the intra-group mutual scoring of group members and group achievement evaluation; Then under the group competition and cooperation as well as the coach-inspired guidance of teachers, students can know better and break through their learning status and learning quality timely; By adopting mind map learning method, it can promote each student to form systematic and internalized knowledge, improve the overall learning performance of the course and the class, and also promote the teaching quality towards a new level.

(1) This can help each student have a full understanding about the contents of each teaching unit in the course timely, form systematic and internalized knowledge, then obviously improve students' overall learning performance, and the level of course teaching quality.

(2) Mobilize students' learning interests and passion, establish group learning communication atmosphere, promote students to master correct learning method, improve learning capacity and reinforce learning motivation.

(3) By exercising and experiencing over and over again in the activity, students can master the mind map learning method, this will exert a positive and obvious influence and help students in the follow-up college study and the future career.

(4) The mind map data accumulated in activities can be used in the follow-up class teaching of the course, to facilitate teachers and students in the learning process.

(5) The learning promotion method based on knowledge mind map concluding and peer-assessment is simple and easy to be implemented, with comprehensive and profound effect, so it can be promoted and applied in the theoretical teaching of any course and any teacher, and effectively improve the learning style of the school and the overall teaching quality.

VI. CONCLUSION

In respect of the difference in course nature, students' quality and the activity organizing styles, it is unavoidable to meet various conditions when implementing the method, especially in the initial phase. For instance, some student groups may not take this seriously, and the submitted mind map achievements are simply made or plagiarized; Besides, this may also be incurred by the insufficient knowledge of students, limited thinking level or unskilled use of tools, which will cause the bad quality of mind map achievements submitted thereby; This may also be incurred by insufficient group organization, nonparticipation and nonfeasance of partial members. Only a small number of students work as group representatives and submit the achievements, etc. Such condition isn't a bad thing, and can at least expose the problem, no matter whether the problem is incurred by the subjective and objective reasons of teachers and students or the reasons of organization and management. In respect of the existing problems, we need to improve learning quality, which is unavoidable. The conditions and problems found thereby can be solved gradually. There is no need to rush and accomplish in an action. Handle problems with an inclusive and trustful attitude, so that students can cooperate. As long as students can have a proper attitude, reinforce their concentration and gradually become proficient for procedures and skills, the learning promotion effect will be highlighted.

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