Discussion on College Students' Self-directed Learning Based on the "Three Big" Teaching Modes

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Abstract—**Classroom teaching is the premise and foundation of guaranteeing students' autonomous learning ability. By discussing the university teaching mode, we can find a teaching mode that is in line with the new era education. This paper summarizes the recent literature and the teaching mode of classroom teaching, summarizes the teaching mode of modern university curriculum teaching, analyses its advantages and disadvantages, and discusses the existing problems. Traditional teaching mode and network teaching mode are indispensable, but "flip classroom" can better serve the current university teaching. On the premise of guaranteeing the quality of teaching, advocating the teaching mode of "flipping classroom" is more conducive to students' absorption and understanding of classroom knowledge.**

Keywords—teaching mode; autonomous learning; "flip classroom"

I. INTRODUCTION

Self-regulated learning is a process in which students take the initiative to use learning strategies, self-motivation and self-monitoring to complete learning activities. It can not only promote the improvement of self-awareness, but also make students' learning objectives clearer, thus forming more effective learning strategies. At present, Chinese society has entered the era of "Internet +", which has changed the way people live and learn. Facing the "post-90s" and "post-00s" student groups with active thinking and pursuing personality development, the current teaching mode in Colleges and universities has become increasingly unable to meet the needs of the times. How to improve the teaching mode of classroom autonomous learning, make learning diversified and contemporary, and greatly improve the efficiency of classroom learning is a problem that universities should focus on solving. Based on the above, this paper explores the three teaching modes of "traditional teaching", "network teaching" and "flip classroom" in order to find a teaching mode that is conducive

to improving the learning enthusiasm and learning effectiveness of College students.

II. TRADITIONAL TEACHING MODEL

Classroom teaching, also known as "class system", is a commonly used means in education and teaching. Its basic rule is that teachers carry out knowledge transfer to students and promote students to develop under their guidance. [1] And classroom teaching is limited in time and space, with specific teaching objectives, tasks, content and schedule. Under the guidance of teachers, traditional classroom teaching conveys knowledge information to students and controls students' mastery of knowledge information. There are many teaching theories aiming at knowledge, paying attention to describing general phenomena, paying attention to students' absorption and understanding of a large number of open teaching contents, paying more attention to the application of higher learning thinking such as analysis, comprehension, criticism, and problem solving, and seeking high self-management and metacognitive abilities of College students, which are reflected in students' passive learning. In the traditional teaching mode, teachers can impart knowledge quickly and accurately, guarantee the systematicness and coherence of the professional knowledge taught, enable students to master the basic knowledge of the major comprehensively and systematically, and save teaching resources and reduce the investment of funds.

However, the current situation of most university classes is "mechanical learning method" and "cramming" teaching. Teachers do not miss any knowledge points in class. The teacher's mouth parched and tongue scorched and the students were drowsy. We pay too much attention to the role of teachers' teaching and neglect the importance of students' learning. Students have always been in a passive position. Teachers require students to memorize by rote. Most of the students' learning stays at the level of understanding the classroom content and coping with the final exam. Under

examination-oriented education, most students are confined to their thinking and self-determination potential by teachers' authority and standard answers. In classroom teaching, they seldom ask questions or "never ask questions". This often causes students to rely too much on teachers to impart knowledge, but not good at thinking, lack of initiative to acquire knowledge consciousness and enthusiasm. As a result, students do not have a deep understanding and memory of their major and spend a lot of time, but the learning effect is not good, thus reducing their interest in learning. [2]And most of the theories we have learned are also on paper. When encountering practical problems, they are often at a loss.

III. NETWORK TEACHING MODEL

Networked teaching has the following advantages: First, with the help of the Internet platform, education resources flow fully and then optimize the allocation; second, in the "Internet" era, the individual differences of college students are more respected, the personalized development of college students is satisfied, and the learning atmosphere is more relaxed. Students can choose their own learning content and schedule their learning progress according to their interests, knowledge background, ability and other actual needs. Multimedia network technology has entered the university classroom, which provides the possibility to reform the university teaching mode to cultivate students' independent learning ability. Colleges and universities make full use of multimedia and network technology to improve the original single classroom teaching mode, which mainly focuses on teachers' teaching. It should be supported by modern information technology, especially network technology, so that students can form individualized learning methods and develop their self-learning ability. Li Jun[3]'s application of network teaching and other teaching modes in the teaching of ultrasound medicine can rapidly improve the theoretical knowledge and operational skills of undergraduates majoring in imaging. Cui Zhongtai [4] and others applied network teaching to college students' health education class, using abundant network resources, effectively solved the problems of insufficient teachers, difficult to understand and monotonous form in the process of teaching practice. Chen Yafei[5]'s use of multimedia network teaching can better guide students, promote their own growth, and improve students' interest and ability to learn English independently.

With the rapid development of network technology and the deepening of people's understanding of lifelong learning, autonomous learning using network platform has become a necessary skill for college students. At the same time, some problems have arisen. Firstly, the intention of some college students to study online is not clear, the consciousness of using online learning is not high, and the utilization rate of network resources is low. On the one hand, college students are often distracted by rich and wonderful network resources, and spend a lot of time chatting, games, aimless browsing, etc. On the other hand, in the network teaching, students face multi-level learning objectives and diverse learning ways, unable to control and adapt. Secondly, the application of College Students' self-regulated learning mode has higher requirements for teachers and students' abilities. Despite the abundant resources of online learning based on the Internet, teachers as important teaching resources can't be ignored. Teachers' ability to integrate teaching content, to select teaching resources, to present learning resources and to use multimedia technology will have an important impact on the improvement of students' autonomous learning ability.

IV. THE TEACHING MODEL OF "FLIPPING CLASSROOM"

Flipping Classroom (Flipping Classroom, also known as "Inversion Classroom") refers to the innovative teaching mode in which teachers assign tasks in the classroom, students learn knowledge after class, and then digest and consolidate in the classroom under the information environment. It has become a hot topic in the global educational circles in recent years.[6] The teaching idea of "flip classroom" teaching mode has something in common with the theory of autonomous learning. Its biggest characteristic is that it is student-centered. It mainly adopts case-based teaching method, interchangeable teaching method and heuristic teaching method, which makes students digest and absorb the learning content more vividly and systematically.

For College students, the theoretical system of university curriculum is huge and abstract. Students need to study actively, diverge their thinking and deepen their understanding. Only in this way can they improve their self-management ability, learning strategy ability and self-monitoring ability. In the "Flip Classroom" teaching mode, students develop their thinking and learning habits by "speaking, writing, and making" on the stage by understanding the self of the topic and the group's perceptions, combined with personal experience. It is conducive to the promotion of knowledge transfer, so as to achieve the purpose of consolidating knowledge, training thinking and cultivating ability. It is found that the "flip classroom" teaching model can make up for the shortcomings of the traditional teaching model and provide students with opportunities to learn actively. As soon as it came into being, it received the attention of teachers and achieved good teaching results through its implementation. For example, Huang Yan[7] et al. designed, implemented, validated and perfected the experiment teaching of "flip classroom" through two rounds of action research, which changed the traditional teaching mode of teachers' speaking, students' listening and simple training in experimental teaching, effectively improving students' learning enthusiasm and learning efficiency, and enhancing students' ability of autonomous learning, experimental reflection and problem solving. Pan Peipei [8] et al. found that the "flip classroom" model can stimulate students' learning initiative more than the traditional teaching model, but also can solve the problems of limited experimental class hours and difficult to improve students' operational skills. Based on the analysis of the problems existing in the experiment teaching of "new technology of modern food processing", Wu Xiaojuan [9] et al. applied the teaching mode of "flipping classroom" to decompose the teaching objectives, design the teaching process and optimize the teaching content, which can better cultivate students' scientific quality, innovative consciousness and technological application ability. Xu Chunmei [10] used the "flip classroom" model to change the concept of college students' learning, improve the ability of teachers' guidance,

and create good learning conditions to improve the ability of College Students' independent learning of Ideological and political theory courses.

"Flipping Classroom" has reversed the traditional teaching process. Only by autonomous learning can we flip in the classroom. Therefore, students' autonomous learning plays a decisive role in the flip classroom teaching. At the same time, in the process of reversing the internalization of classroom knowledge, students need to explore and solve problems independently with their peers.

V. CONCLUSION

The arrival of the era of Internet + and the deepening of the reform of educational informatization have brought about an organic integration of the network and the classroom. Improving the teaching level through the Internet information technology has become the focus of teaching innovation.[11] Therefore, based on the innovative perspective of teaching mode, this paper makes an analysis and comparison of the "three major" teaching modes of University curriculum. We should learn from our strengths to make up for our weaknesses, copy and apply a certain classroom teaching mode mechanically, make rational use of the appropriate teaching methods in traditional teaching, give full play to the advantages of modern science and technology, avoid its disadvantages, truly improve the efficiency of innovative teaching mode, and improve students' autonomous learning ability.

Secondly, autonomous learning is a complex process, and we must avoid using simple criteria to evaluate complex tasks. In the evaluation of autonomous learning, teachers should rely on their rich knowledge and evaluation experience to fully understand students' learning situation and research topics. Teachers can collect information about students' interest and motivation in self-regulated learning by talking with students. They can learn about students' learning experience, habits and methods. It is conducive to giving timely feedback to students' learning situation and mastery degree. They can also help students understand themselves and their learning content and objectives in a timely manner through multi-angle analysis. It can also make students think and discuss independently by asking questions in class, arranging homework after class and taking small self-study tests, so as to encourage them to study actively and evaluate their learning according to students' feedback. For example, when using "flip classroom" teaching, open questions related to teaching content are designed, so that students can consult the relevant literature before class, think about the existing data in class and discuss with their classmates to put forward the answer, and carry out performance and test evaluation according to the accuracy and diversity of the answer, so as to cultivate their self-learning ability. Self-report questionnaire can also be used for evaluation. This method is generally used in groups. It is objective, unified, efficient, highly quantified and standardized data collected, and the results are easy to analyze. Self-regulated learning is an implicit strategy.[12] When designing the self-regulated learning questionnaire, we should select the test items and set certain evaluation criteria to reflect the attitude and motivation of students' self-regulated learning.

Finally, in order to cultivate students' autonomous learning ability, we must do the following: First, students should be given time to study independently in classroom teaching. Secondly, in the content of classroom teaching, students are given space to think and question. At the same time, students are allowed to independently consult relevant knowledge by arranging homework before and after class. Finally, in order to cultivate students' autonomous learning ability, we must do the following: First, students should be given time to study independently in classroom teaching. Secondly, in the content of classroom teaching, students are given space to think and question. At the same time, students are allowed to independently consult relevant knowledge by arranging homework before and after class. Third, team cooperative learning should be strengthened by dividing the class students into groups of 4 to 5 and organizing cooperative learning in groups. Teachers can learn about the students' learning situation and give feedback on such indicators as the enthusiasm of group discussion, the number and depth of questions raised and the accuracy of questions answered. Fourthly, we should stimulate students' learning motivation and improve their learning enthusiasm. Ancient people said, "Learning comes from thinking, thinking comes from doubts", "Small doubts make small progress, big doubts make great progress". Teachers should encourage students to question boldly in the teaching process, which is conducive to students' active thinking, finding problems, and cultivating students' spirit of innovation and inquiry. Fifth, teachers should strengthen the application and interest of classroom teaching. "Usefulness" and "interest" are important factors to attract college students to study. In classroom teaching, teachers should integrate theory with concrete cases, theory with practice, think deeply, create problem situations, and try to get rid of plain and direct narration, so as to make the classroom attractive, so as to improve students' learning enthusiasm.

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