

# Adaptive Exploration on Universities Implementing the Flipped Classroom Teaching

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**Abstract.** At present, there are many difficulties in the classroom teaching of colleges and universities, and the current teaching mode of the classroom has been difficult to meet the needs of the development of students. This new classroom teaching mode, the theory and technology of its theory and technology are born in the western culture background, so it is necessary to apply to the teaching of Chinese colleges and universities, must face the problem of adaptability. Based on the analysis of the advantages of the flipped classroom, we should reflect on whether we need to flip the classroom teaching in Colleges and universities. The application of the flipped classroom teaching mode should be adjusted according to the teaching conditions, teachers' training and students' adaptation, so as to realize the advantages of the flipped classroom teaching mode, so that the optimal results can be achieved.

## Introduction

In 2007, Jonathan Bergmann and Aaron Sams of Woodland Park High school in Bergmann, the first to use the "flipped classroom" teaching mode in the classroom, and to promote the use of this model in the United States and primary school education. Until 2011, "flipped classroom" for many teachers to become familiar with and become the world's attention to the teaching mode. The so-called flip classroom, is a teacher to create a video, students at home or outside the classroom to watch the video of the teacher's explanation, back to the classroom, teachers and students face to face communication and complete a teaching mode. The first step is to create a teaching video. First determine the students must master the goal, and the video needs to be the final content; second is to collect and produce video, making video to consider the differences between different students and classes, in order to adapt to different students learning methods and habits. Second step, organize classroom activities. The video content is passed to the students before the lesson, let the students use the time to watch and study, the classroom is for video content organization to study and discuss, let students have the opportunity to apply their knowledge in the specific environment, including the students create the relevant content, solve problems independently, explore the problem, or based on a project to carry out learning [1].

In the current teachers in Colleges and universities, there are still a lot of people in the use of traditional cramming method of teaching, namely teachers scripted, students passively receive, teacher-student interaction time less. This kind of teaching mode reduces the overall effect and quality of the classroom teaching to a large extent, inhibits the improvement of students' self learning ability and innovation ability, and it is imperative to reform the classroom teaching reform. The new mode of the flipped classroom provides a reform direction for the college classroom teaching, which is helpful for the teachers to explore new exploration in the classroom teaching.

## **Advantage on Flipped Classroom Teaching**

This new classroom teaching mode, in the teaching idea, teaching method, teaching process and the role of teachers and students are different from the traditional classroom teaching mode [2].

(1) The teaching idea insists on "taking the student as the center". Flipped classroom is a kind of learning strategy, which is based on the students' learning needs. Teachers in creating a video, the learning content through the integration of (writing on the blackboard or outline) text, image, animation, video, video, teachers to content explain presented in the form of voice over. Students can only read the video outside the classroom, in order to discuss in class, so that students in the active learning status. Teachers in the classroom, through the discussion to the students the guidance, chance with each student to talk and an assessment of each student's progress, do really teach students in accordance of their aptitude.

(2) The teaching method takes the student independent learning as the leading. In the flipped classroom, students are the main body, the use of teaching video, students can according to their own situation to arrange and control their own learning, to form a self paced learning model, that is, according to their own steps, rhythm learning, can be suspended, backward, replay, is conducive to the completion of learning based on individual circumstances, better and better teachers with learning, promote self development.

(3) All the places are in the classroom. In the classroom, the classroom teaching is transformed into the classroom teaching, the change of the classroom place, and the change of teaching "all places are the classroom". After the change, the students can choose any place to complete the task before the class to watch the teaching video, to master the learning progress, encounter difficulties can be through the network to seek help from the network, the problem can not be solved for the companion to the teacher, the teacher to help students solve the problem. Between the students and between the students and teachers can interact with each other, so that learning not only occurs in the fixed classroom.

(4) Teacher and student role is interactive communication. In the flipped classroom, the teacher's role has changed from the content of the presentation to the students' guide, teachers can better understand the students' problems and guide students to use the knowledge. Students can also put forward their views and ideas at any time, with the right of classroom discourse, so that they feel the importance of learning and can find the sense of presence. As a result, the contact time between the students and the teacher is increased, and the teacher is gradually becoming a kind of student. It is beneficial to improve the classroom interaction and form a good relationship between teachers and students.

## **Problems in The Traditional Classroom Teaching**

At present, there are many difficulties in the classroom teaching of colleges and universities, the most prominent of which is the teaching of the University and primary and secondary school teaching. University teaching mainly depends on the students' independent learning, and the students who have just entered the University in the middle school, many people have weak awareness of autonomous learning, but it is difficult to find a suitable learning method. Therefore, the university teaching needs to take effective measures to cultivate students' autonomous learning awareness, so that students from the passive recipients of knowledge into the learning body, the personality of learning to become a real aggressive behavior, to better promote the development of students. However, at present, the classroom teaching mode has been difficult to meet the needs of the development of students, it is difficult to attract students to the classroom, classroom teaching efficiency is not high, lack of vitality. The main reason is two points:

One is the classroom teaching mode is old. The teaching mode of the university is to focus on the teaching of multimedia. This mode is to show the teacher to make a multimedia courseware in the classroom teaching, the students in the teacher's guide through the display of multimedia courseware to learn [3]. This teaching mode is intuitive, and the teaching and learning activities are

rich and colorful, but due to the limited time, courseware content is more, so it is playing fast, but most of the time is occupied by teachers, students can not grasp the rhythm of learning, and can not be a good knowledge.

Two is the lack of interactive communication in the classroom teaching in Colleges and universities. Even though the use of multimedia teaching, the teaching of the university is still in accordance with the traditional teaching process, the teacher is the absolute dominant, students passive learning. Teachers in the classroom to carry out knowledge, students in extra-curricular knowledge and to consolidate and internalization. But the after-school learning lack of positive guidance teachers, in class, teachers and students, between students lack of interaction and communication, class time is often teachers occupy, to teach knowledge cramming, students encounter problems and doubts is not timely guidance.

### **Appropriate of Flipped Classroom and Universities Teaching**

And in the Internet and computer technology has been widely used today, education innovation has unlimited possibilities. Flipped classroom has become a useful attempt to reform the teaching mode of the University. By comparing and analyzing the advantages and disadvantages of the current teaching mode and the teaching mode of the flipped classroom, the author thinks that the flipped classroom teaching mode is beneficial to solve the problems of the present university classroom teaching. In the university application has certain feasibility.

(1) Flipped classroom is beneficial to improve the efficiency and quality of classroom teaching. The flip classroom is a great change to the traditional classroom teaching ideas, teaching methods, teaching process and the role of teachers and students, the learning process is reversed, so that learners in extra-curricular time to complete the knowledge point and the concept of independent learning and classroom is a place of interaction between teachers and students, mainly used to answer doubts, report discussion, to achieve better teaching effect, so as to change the existing classroom teaching in the classroom, so that the classroom is not only a student learning, but also become a student of music.

(2) Flipped classroom changed the teaching method of teachers, teachers' professional development. Flip the classroom to teachers with higher requirements. Teachers must design and manage the learning resources, and provide them with the right way, so that the learners can develop their own learning. In the stage of "knowledge learning" before class, the teacher must construct a virtual learning environment suitable for autonomous learning, which can easily obtain the learning resources. In the course of "knowledge deepening and internalization" stage, teachers should give full play to their duties, and actively guide and manage the discussion process, and promote the students' learning. Therefore, the teacher is no longer on the platform of the saints, but the side of the teacher, the teacher must constantly improve their overall quality and business level, and then optimize the teaching, and better for the growth of students, to speed up their own professional growth.

(3) The role of the teacher in the course of the students' learning is changed in the classroom. Flip the classroom can truly realize the "student centered" teaching philosophy, teachers guide learners to study, autonomous exploration, learners must improve their own learning ability, self-management skills. Take the way of turning the classroom, can fully mobilize the enthusiasm and initiative of the students learning, so that all students are involved in the study, the teacher through the students to learn the pace of personalized learning, to exercise and develop their own learning ability is an important role, and ultimately improve the learning ability of students.

(4) Flipped classroom to improve the school teachers and students relations flipped classroom change the roles of teachers and students, to share and exchange replaced the teachers cramming teaching indoctrination, enhance the teachers and students both inside and outside the classroom interaction and personalized communication, to improve the students help each other, innovation cooperation, joint efforts, solidarity and friendship consciousness and ability, make the harmonious development of the relationship between teachers and students, to enhance the cohesion of class, to create a positive campus cultural atmosphere.

## Advice on Flipped Classroom Teaching Practice in University

In Colleges and universities to implement the flipped classroom teaching needs to have some basic conditions: first, the school needs to provide modern education information technology support, with the appropriate teaching facilities, such as the school classroom should be equipped with video projection equipment, projection equipment, connected to the Internet broadband, which is to carry out the basic conditions of the classroom teaching; Two is the teacher, to carry out the determination and courage to carry out teaching reform, and actively try to turn the classroom teaching; three students should have access to the Internet information and tools to watch video. On the current situation, the first and third basic conditions, especially the vast majority of students already have computers and mobile terminal devices (such as smart phones, tablet PCs), which is to carry out the basic guarantee of the classroom teaching. The second condition is the thought and the basic skills of the problem, as long as the school actively supports, teachers' understanding and skills can be improved. For this purpose, the following suggestions are put forward.

(1) Colleges and universities should further strengthen the basic construction of educational information technology in order to make the classroom teaching mode to achieve a better effect, the need to increase the support of information technology education, not only to achieve broadband access to campus network, but also to achieve the teaching and living area of the cable or wireless network covering the classroom, classroom, library, student dormitories. To set up a professional teacher's studio, to provide video production equipment, construction course website. The functions of the teacher's studio, in addition to the regular teaching plan, teaching outline, teaching schedule, and other functions, but also the preparation of complete network courseware, complete teaching video, case library, exercise library, examination papers, famous scholars academic forefront lectures, video data, a full range of three-dimensional teaching resource network, and constantly updated and perfected, forming a set of curriculum guidance, learning database [4].

(2) Colleges and universities should strengthen the teaching reform, encourage teachers to carry out teaching reform is one of the core tasks of the reform of colleges and universities. Schools should encourage teachers to establish a new concept of students and teaching, the real "to the students," the reconstruction of classroom teaching mode, and effectively improve the quality of teaching. Aaron Sams said: "flip the classroom through the reversal of the role of teachers and students make the teacher's responsibility is greater, this class is a responsibility, love, understand the design of professional educators [5]."Therefore, the flipped classroom teaching of teachers' teaching ability put forward higher requirements, mainly reflected in the information technology ability, classroom organization and management ability and communication ability three aspects: teachers to be produced to meet students' needs of teaching video to have superb driving the to classroom organization and management ability to regulate the teaching of all kinds of accidents, to master more communication skills to mobilize students learning enthusiasm and initiative, and guide the students to practice. In view of these requirements, the school should organize related training activities, improve the level of information technology, especially the video production skills, classroom organization skills, so that teachers get the most basic ability, to lay a good foundation for the professional development of teachers. At the same time, we should formulate the relevant incentive policies, for the courage to explore the teaching reform of the teachers to give recognition and reward, in the teaching reform, the promotion of professional titles and other aspects of the provision of policy tilt, so that teachers are really involved in the reform of teaching.

(3) Teachers should take over the classroom teaching reform as a breakthrough, and strive to promote their professional development of teaching mode is a new breakthrough in the teaching reform, teachers should recognize that this is a new opportunity for their professional development, and continuously increase their knowledge reserves, always "charge", and promote their professional growth. Teachers can learn from the experience of domestic and foreign, especially for teaching video production. In particular, we can learn from the teaching of teaching and learning, and to meet the demands of teachers in the classroom [6].

(4) In the use of flipped classroom teaching mode, teachers need to guide students to adapt to the new classroom teaching mode. Classroom teaching to students' learning ability, students should be

able to be good at autonomous learning, with independent learning and thinking habits; students should have a strong ability to find problems and solve problems; students should have a strong ability to express [7]. These all require the teacher to the careful organization, careful guidance, fully mobilize the initiative of the students, so that students are willing to improve the ability of the training. First of all, we should stimulate the students' intrinsic motivation, create a learning environment that is suitable for autonomous learning, and can easily access to learning resources, and full communication and exchange. At the same time, set up some incentives and guidance to help students solve problems in this process, and secondly, to strengthen the students' time management awareness, develop the ability to resist interference, develop the habit of learning, and finally, to strengthen the process of students, pay attention to students' learning process, at any time to communicate with students to understand their learning situation, establish an effective evaluation mechanism.

## Conclusion

The ten year development plan of the education information (2011-2020) [8], pointed out that the development of education informationization should be based on the innovation of educational ideas and the construction of quality education resources and information learning environment. At present, our country already has the University exquisite curriculum network, the Chinese primary and middle school education teaching network and so on many teaching video sites. In addition, the superstar video teaching network open courses, NetEase network, network video micro class has accumulated rich teaching resources. To provide the resource base for the development of the flipped classroom teaching mode. At the same time, in Hongkou District, Shanghai as the representative of the implementation of the electronic movement, Intel a of a digital learning project for the implementation of the flipped classroom provides hardware foundation. In the process of the development of national education information, the flipped classroom teaching mode will have a certain impact on the teaching reform of our country.

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