

# Exploration and Thinking of Flipped Classroom Teaching Mode in the Teaching Reform of Local Application-oriented Colleges

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**Abstract:** Compared with traditional teaching methods, flipped classroom has high efficiency of knowledge dissemination. It is an effective teaching mode to adapt to the current social and educational environment. For local application-oriented colleges, the course content focuses on practice, and the teaching hours are generally insufficient. In order to complete the teaching content required by the course with quality and quantity, it is imperative to carry out curriculum reform. Flipped classroom is an effective way. This paper clarifies the connotation of flipped classroom by combing the development history of flipped classroom. This paper expounds the necessity of flipping classroom reform in local application-oriented colleges from the advantages of flipping classroom, improving classroom teaching efficiency, adapting to the talent training environment, and increasing the needs of application-oriented talent training. According to the teaching experience, the author summarizes the problems in the implementation of flipped classroom teaching, and also puts forward the path of flipped classroom teaching reform in local application-oriented colleges, in order to provide reference for solving the current teaching problems.

## 1. Introduction

The prototype of flipped classroom originated from Woodland Park School in the United States. In 2007, Khan Academy, a free teaching website, was established in Salman Khan, which is a symbol of the extensive use of information-based teaching methods.<sup>[1]</sup> In 2013, Jonathan Bergmann, Aaron Sam and others defined the connotation of flipped classroom. The teaching method of flipped classroom is to transform the collective learning mode into individual learning mode, which is a dynamic and interactive learning environment.<sup>[2]</sup> Teachers give guidance to students in the process of participating in subject learning.

With the deepening of the research on flipped classroom, it has also attracted the attention of Chinese scholars. In 2011, China began to explore the flipped classroom. In 2012, Zhang Jinlei and others published the first paper on the theory and practice of flipped classroom, in which the teaching model of flipped classroom was put forward.<sup>[3]</sup> Since then, the number of papers in related journal papers has increased year by year, especially in colleges and universities, where flipped classroom teaching is carried out in combination with specific disciplines.

Traditional teaching is that teachers help students memorize, understand and digest the knowledge that they want to learn in class, and leave homework or questions for students to study and think after class. Flipped classroom teaching broadens the space of "teaching" and "learning". Students complete the study of textbooks and other knowledge before class.<sup>[4]</sup> In the classroom, teachers help to sort out methods, solve problems and improve creativity. Teachers have changed from the role of imparting knowledge to the role of guiding learning, and learning has become passive and active. It is a powerful means to promote teacher-student interaction and stimulate interest in learning. It realizes the internalization of knowledge through modern technology and truly embodies the educational concept of "student-centered". Flipped classroom can not only "teach" but also "educate".<sup>[5]</sup> Educating people needs teachers' words and deeds, and students' immersion. After all, the teacher's task is not only to teach students to learn knowledge, but also to teach students to learn how to behave. Although the flipped classroom also supports the interaction between teachers

and students from a distance, it is more important for teachers and students to communicate face to face, so as to solve problems at a deeper level and achieve the goal of truly educating people.

## **2. The necessity of flipped classroom reform in local application-oriented colleges**

### **2.1. Advantages of Flipped Classroom**

Make students have more opportunities to participate and interact. Flipped classroom emphasizes students' sense of participation, provides more opportunities for learners to participate and interact, and creates an immersive and social learning environment for learners to learn from each other and an interactive practice platform with instant feedback. It provides learners with more autonomy in learning and helps to improve students' interest in learning.

### **2.2. The Efficiency of Classroom Teaching in Local Colleges Needs to be Improved**

With the development of society, the requirements of school teaching for students are getting higher and higher. We should not only pay attention to the accumulation of theoretical knowledge, but also pay attention to the cultivation of practical ability. In addition, the reduction of teaching hours makes it impossible to complete the teaching tasks of many courses. Therefore, how to improve the efficiency of classroom teaching is an urgent problem for front-line teachers, and flipped classroom is the most ideal solution at present.<sup>[6]</sup>The essence of flipped classroom is to achieve the learning objectives of every link in the process of learning and teaching in the most efficient way. Students can accomplish by themselves, and teachers should solve the problems that students can't complete and expand the breadth of knowledge. Teachers' energy and students' learning time are limited, so "efficiency" is emphasized throughout the whole process of flipped classroom.

### **2.3. Adapt to the Needs of the Environment of Talent Training**

Since the end of 2020, many schools have changed their teaching methods from offline to online due to the pandemic. Online teaching is becoming an important teaching method in daily teaching. However, the uncontrolled online learning environment reduces students' autonomous learning ability, which results in the inefficiency of students' ability cultivation. In this case, combining flipped classroom with online teaching can solve the kind of problems. Before class, students finish watching and studying the learning materials by themselves. Online class, teachers and students collaborate and explore, answer questions and communicate with each other in class. The flipped classroom teaching model can eliminate the problem of low learning efficiency caused by the conversion of students' class location from online to offline, and can also strengthen the communication between teachers and students in class. At the same time, students can also cultivate their independent learning ability imperceptibly when collecting materials after class, so as to realize the teaching advantages of multiple birds with one stone.<sup>[7]</sup>

### **2.4. Increasing the Need to Train Application-Oriented Talents**

In the current field of higher education, most students are still memorizing the knowledge points and definitions in the books. This learning atmosphere makes it difficult for students to improve their practical ability and problem-solving ability. Professional ability is particularly important in the future. In the future work, students will encounter many problems that can't be solved by theoretical knowledge in textbooks.<sup>[8]</sup>Such uncertain and diverse problems require solid ability to analyze and solve problems. The most important significance of flipped classroom is to bring practice into theoretical learning and improve thinking ability and practical operation ability. Only "grasping both theory and practice, both hands should be hard" can make the training personnel diversification, increase professional talents, promote the development of the industry.

## **3. Problems in the implementation of flipped classroom teaching**

Flipped classroom teaching mode changes the traditional teaching mode, excavates the initiative

and interest of students, and also brings certain tests to the teaching. For example, online self-study tests students' consciousness and initiative. Students with poor self-discipline cannot guarantee the learning effect of this link, and the effect of teachers' supervision and reminding is not obvious. The author has been on the teaching front line for many years and is familiar with the current teaching situation. Problems in the implementation of flipped classroom can be summarized as follows:

### **3.1. The Hardware Environment of the Classroom Needs to be Strengthened**

The desks, chairs and benches in the classroom are placed in rows, and the stools in the back row are connected to the desks in the front row, so it is almost impossible to transform the classroom into a scene that can be freely combined and discussed. When some students report the completion of the task, their voices are weak and students sitting in the back of the classroom can't hear the report clearly.

### **3.2. Students' Enthusiasm for Learning Needs to be Improved**

In general, each class and group carried out active learning, reporting and discussion according to the requirements of the teacher. But there is still a great imbalance between groups and students. Some students have the psychology of dependence when they study and discuss in groups. Learning tasks always rely on individual students in the same group, and even one person completes the task instead of a group. In this way, the gap between students' autonomous learning ability is even larger: the better, the worse.

### **3.3. Teachers' Application Ability of Educational Technology Needs to be Strengthened**

The diversified and easy access of information teaching means and network learning resources are the technical basis for the rapid development of flipped classroom. It is the first time for some teachers to use flipped classroom teaching model and they are not familiar with the online teaching platform. Due to the tight schedule or other reasons, teachers fail to upload the teaching resources to the network platform in time. Instead, traditional methods such as QQ or WeChat are used to distribute teaching materials. It is neither efficient nor convenient for data acquisition. There are also some teachers who lack understanding of mobile teaching software.<sup>[9]</sup> Before class, the traditional paper sign-in method is still used, and the classroom discussion adopts the inefficient method of manual recording by teachers.

### **3.4. Teachers Need to Adapt to the Flipped Classroom Teaching Mode**

Flipped classroom provides a brand-new knowledge transmission mode and learning mode different from traditional classroom. This new way of learning requires teachers to change their teaching methods to adapt to the changes of students' learning methods. Changing the classroom model from teacher-centered to student-centered will make many teachers unable to start. Most teachers have been used to the traditional teaching method, and it needs to be re-prepared to change it into a flip classroom. Flip classroom is the most need for personalized teaching.<sup>[10]</sup> If teachers simply hand over the classroom to students according to the definition of flipped classroom without basing on the reality of students, it will affect the students' learning efficiency and reduce the classroom utilization rate. the learning efficiency of students will be affected and the utilization rate of the classroom will be reduced.

### **3.5. The Course Assessment Method Needs to be Improved**

The application of flipped classroom teaching mode needs to change the traditional course assessment method. The traditional course assessment method is based on the classroom performance and the final professional course examination score in a certain proportion as the final score of the course of the semester. This traditional course examination form is mostly paper examination paper. Most of the questions in the paper examination are composed of multiple-choice questions, judgment questions, short answer questions, essay questions, etc. It only focuses on the students' memory and application of theoretical knowledge. However, the important part of practical operation is limited in the traditional closed-book written examination method. Teachers use the

flipped classroom model to impart knowledge to students and achieve good results, but there is no assessment for this mode of teaching in the final assessment method. So it is imperative to reform the traditional way of curriculum assessment.

#### **4. Discussion on the path of flipped classroom teaching reform in local application-oriented colleges**

Flipped classroom provides a platform for interaction and communication between teachers and students, which is conducive to mobilizing students' enthusiasm for learning, and also provides more learning opportunities and resources for application-oriented undergraduate students.

##### **4.1. Policy Support for Flipped Classroom Teaching Reform**

The implementation of flipped classroom teaching model is a complex system engineering from top to bottom. Schools must do a good job in top-level design and mechanism guarantee, update the awareness of teaching management, and promote the efficient application of flipped classroom teaching model with systematic ideas. In order to promote the classroom revolution and improve efficiency of the classroom, the school should formulate corresponding curriculum construction standards for the pilot reform of "flipped classroom" teaching mode, and make clear provisions on the basic requirements of curriculum construction, teaching organization and assessment methods. On this basis, in order to further promote the information reform of teaching methods and improve the level of education and teaching, excellent courses can be regarded as pilot courses of flipped classroom teaching model reform.

##### **4.2. It Has Optimized Learning Platform and Learning Resources**

At present, there are many learning platforms, such as MOOC, the Union of Excellent Courses, Chaoxing, superstar, Xuetang Online and Wisdom Tree. Numerous platforms make learning resources unconcentrated. Learning requires downloading multiple software or apps at the same time, and teachers and students have limited energy, which makes learning very inconvenient. The author suggests optimizing the learning platform, which is not easy to be greedy or complete. It is enough to choose one or two kinds of platforms recognized by teachers and students as the main learning platform. Schools should constantly improve the management of information-based teaching resources and provide rich learning materials for flipped classroom teaching.

##### **4.3. Strengthen Targeted Training of Teachers**

To increase the training of teaching teachers, the first step is to improve the cognition of professional course teachers in colleges on flipped classroom mode, and encourage teachers to carry out "efficient flipped classroom".<sup>[11]</sup> Teachers should constantly improve the level of information technology skills, enhance teaching ability, learning ability, cooperation ability, etc. Secondly, the relevant departments of the school can organize more teachers to learn to participate in the teaching competition of the flip classroom, learn from the teaching experience, and form their own personalized flip classroom teaching mode through the integration of teachers. Finally, teachers should not give all classes to students in the flipped classroom mode. Flipped classroom teachers still need to teach, and there are still in-depth, targeted and focused teaching. For students' after-class learning results, the focus will be clear, and the knowledge difficulties in the course will be broken through from multiple dimensions to solve the problems left over by students during self-study. Teachers should use their limited time to improve the teaching efficiency of the whole course under the flipped classroom model.

##### **4.4. Teachers Should Update Their Teaching Concepts and Change Their Role Orientation.**

Teachers should adapt to the development of the new situation in time. Teachers should improve their teaching ability, update and follow up the development of the times.

First, the focus of teaching has changed from what teachers should teach and how to teach to how students want to learn and how well students learn. Teachers should pay attention to students'

learning process so that students can achieve the best learning effect. Its essence is to shift from the teacher's perspective to the student's perspective, from teacher-centered to student-centered. The flipped classroom just technically ensures the implementation of the teaching concept of "student-oriented and learning-oriented".

Second, teachers are required to change their roles from mere knowledge imparts to mentors who guide and help students learn. The task of teachers is not to supervise and judge students' learning results, but to help students get better learning effects and learning experience. Teachers must make up for students' shortcomings in the learning process according to their feedback and demands, so as to lay a solid foundation for subsequent learning.

#### **4.5. Teachers Should Create A Relaxed, Pleasant and Free Learning Atmosphere for Students**

To improve the effectiveness of students' independent learning under the flipped classroom teaching model, a free, relaxed and pleasant classroom atmosphere can be created. We can create a free, relaxed and pleasant classroom atmosphere. Teachers can integrate into students as participants, Teachers integrate into students as participants, initiate competition mechanism, mobilize the enthusiasm to speak, and promote the transformation of students' roles. Take students as the center, guide students' learning consciousness ideologically, strengthen students' learning ability from the action.

First, enhance interactive links. In flipped classroom teaching model, it is necessary to add some interactive links, increase the number of discussions, and find the most students' interest in knowledge points. In the process of discussion, teachers need to participate in the process, at the same time, teachers should also give appropriate analysis and answer, improve the enthusiasm of students to participate in the discussion.<sup>[12]</sup> Enable students to consolidate and improve the learning content. In the interactive activities, catch the students' dynamic at any time and give timely guidance. Teachers should adjust interaction strategies according to students' interaction to ensure the effective development of group activities. Teachers should make sure that everyone participates in group activities and communicates actively. Teachers should also provide a variety of problem solving methods and strategies, and pool ideas.

Second, enhance students' enthusiasm for flipped classroom learning. Flipped classroom learning requires students to apply the learning results on the off-class network platform in the classroom. Students will have exploratory learning with classmates and teachers on the basis of mastering basic knowledge. Students should change the traditional way of learning and communicate with teachers more. Students should change passive learning to active learning, adapt to the way of online learning, build their own knowledge system step by step, and show their achievements. Teachers can also introduce competition mechanism into the classroom, which can bring students happiness and sense of achievement of inquiry learning.

#### **4.6. Innovate the Assessment Methods of Specialized Courses**

First, update the course evaluation method.

The traditional classroom evaluation can't adapt to the new classroom model. Flipped classroom needs a new evaluation system to fully evaluate students' learning situation. The purpose of flipped classroom is not only to learn knowledge, but also to cultivate comprehensive ability. Therefore, the evaluation index of flipped the classroom is not only summary evaluation, but also process evaluation. The new evaluation system should increase the indicators of students' autonomous learning and classroom performance, and also mobilize students' enthusiasm. The new evaluation system should increase the indicators of students' independent learning and classroom performance, and also mobilize students' enthusiasm for participating in classroom learning.

Second, make effective classroom assessment assignments.

The purpose of issuing a small amount of assessment assignments in class is to let students find the problems existing in the pre-class self-study. Therefore, the assessment work should be based on the feedback of students' self-learning before class, including the feedback of exercise materials, the topic initiated in the discussion area, etc. In addition, the content of the assessment homework should be able to highlight the subjectivity of the problem, and and it should be extensible and

discursive, which is conducive to students' discussion and communication, and promote the internalization of knowledge.

## 5. Conclusion

At present, flipped classroom is an effective way to improve teaching efficiency, which can achieve the goal of each teaching link. Through the flipped classroom teaching model, students will not be unable to absorb knowledge or even keep up with the progress because the teacher teaches too fast. Teachers providing higher-level teaching services, which is no longer a simple repetition of classroom teaching knowledge. Teachers pay more attention to the cultivation of students' thinking ability, innovation ability and comprehensive ability. This efficient teaching model is undoubtedly what everyone is willing to try and apply.

Under the background of education globalization and informatization, the implementation of flipped classroom can promote the perfection of curriculum design, promote the innovation of teachers' education ideas, comprehensively promote teaching reform, realize the deep integration of information technology and education and teaching, promote the co-construction and sharing of high-quality resources, and improve the quality and level of teaching. We conduct flipped classroom teaching reform and practice research, not only carry out theoretical analysis, but also carry out practical exploration, use theory to guide practice, use practice to promote reform, so as to improve the overall teaching quality and students' learning ability.

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