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# On the Transformation of Teacher-Student Roles and the Construction of Teacher-Student Relationship in Flipped Classroom

**Lieqiong Tang**

**Changsha Normal University, Changsha 410000, China.**

***Abstract:*** Flipped classroom is becoming more and more popular under the promotion of education authorities. They have unique advantages in realizing the educational concept of "learner centered". Only when teachers change from traditional knowledge communicators to designers and producers of micro courses, organizers and participants of classroom learning, promoters and helpers of students' learning, and only when students consciously change from passive knowledge recipients to active learners and active knowledge explorers, can the flipped classroom really give full play to its advantages and promote the improvement of teaching quality, Help students become autonomous learners and lifelong learners

***Keywords:*** Flipped Classroom; Micro Class; Role Transformation

## 1. Connotation and characteristics of "flipped classroom"

"Flipped classroom" refers to a teaching mode in which students learn the teaching content by watching videos and related materials provided by teachers, and communicate with each other in the classroom to complete the process of knowledge internalization. The "flipped classroom" originated from Woodland Park High School in the United States, In order to solve the problem that students can't keep up with the progress of missing classes, Jonathan Berman and Aaron SAMs, two chemistry teachers, upload prerecorded teaching videos to the network for students to learn, and mainly solve the difficulties encountered by students in the classroom. The practice results show that "flipping classroom" can not only improve students' academic performance, but also stimulate students' interest in learning, "Flipped classroom" subverts the traditional teaching process. Traditional teaching is that teachers explain knowledge in the classroom, and students master knowledge through independent practice and review after class. While "flipped classroom" puts the knowledge teaching process before class, students learn knowledge independently, and put the internalization process of knowledge into the classroom. Students discuss, communicate and experiment with each other under the guidance of teachers, This teaching mode liberates students' learning activities from teachers' authority, enables students to obtain relative independence and freedom, and realizes the transformation from "teaching" to "learning". It is a "student-centered" teaching mode, All "teaching" activities of teachers are carried out around students' "learning", focusing on students' learning effect and future development. It can be said that "flipped classroom" is not only a simple reversal of teaching procedures, but also a subversion of teaching ideas, a reform of the whole teaching system from teaching content, teaching form to teaching evaluation, and a reconstruction of the roles of teachers and students.

## 2. Transformation of the roles of teachers and students

## 2.1 Transformation of teachers' role

"Flipped classroom" poses an unprecedented challenge to the role of teachers. Compared with the teaching of knowledge, it pays more attention to the internalization process of knowledge, requires teachers to reasonably arrange teaching activities, fully mobilize students' enthusiasm, and start the journey of exploring and discovering knowledge with

students in class. In this process, we should not only make students happy physically and mentally, but also improve their knowledge and ability. Therefore, it is bound to reshape the role of teachers and change their previous roles of "knowledge transmitter" and "classroom controller". Before class, the teacher is the designer and producer of teaching video.

Before class, students mainly watch videos from the main learning. Therefore, how to make high-quality video is particularly important. Teachers should not only be familiar with the syllabus and clarify the teaching objectives; We should also analyze the characteristics of students' physical and mental development, screen and integrate teaching resources, and provide students with a ladder of autonomous learning; We should deeply grasp the teaching materials, refine the teaching difficulties and key points, and reasonably present the teaching contents to the students; We should also arrange targeted hierarchical learning tasks, so that students can make reasonable choices according to their actual situation and needs, and drive students to complete the pre class knowledge reserve. In particular, it should be noted that different from traditional experimental teaching, teachers only put forward the task of experimental research and pointed out the direction of research in the video recorded before class, and appropriately leave blank in some places according to the teaching objectives and characteristics of the experiment, so as to leave space for students to think and innovate and let them actively explore and construct knowledge.

In addition, in addition to solid professional knowledge and excellent teaching ability, experimental teachers should also master the operation skills of modern teaching resources, video recording and the use of post-processing software to ensure that physical phenomena show perfect visual and auditory effects.

In the classroom, teachers are the designers, organizers and participants of teaching activities; Through a series of inquiry activities such as mutual communication, cooperation and experimental operation, students collide with the spark of wisdom to analyze and solve problems. Therefore, before class, teachers should design a series of experimental inquiry activities according to students' original knowledge base, cognitive style and operation ability, and organize students to actively participate in classroom discussion by combining individual inquiry and group cooperation, so that students can carry out experimental verification and improvement scheme while putting forward ideas, and operate while thinking, Through the completion of each experimental inquiry task, the teaching goal is finally realized. In addition, teachers should have good organizational ability to guide students to conduct in-depth communication, so that the whole teaching activities can be carried out around the teaching objectives. Teachers should give timely and correct feedback and guidance to the problems and experimental schemes put forward by individual students, participate in the classroom discussion as equal participants, and put forward guiding questions to promote students' in-depth and comprehensive thinking.

After class, teachers are promoters and helpers for students to consolidate and deepen their knowledge. With the wide application of information technology and network technology, teaching materials are no longer the only way for students to obtain knowledge, and the classroom is no longer the only place for students to construct knowledge. Therefore, teachers' teaching work is no longer limited to classroom and book teaching, but not only enrich and expand the teaching content according to students' needs, Students' Extracurricular Autonomous learning time should also be included in the scope of teaching work. The form of teaching is no longer limited to face-to-face communication. Teachers can make full use of network equipment to communicate and interact with students online, provide help for students' autonomous learning, help them sort out the context of classroom knowledge, answer questions and solve doubts. Teachers can also encourage them to think deeply by assigning tasks. The tasks assigned by teachers can be basic tasks .

## 2.2 Transformation of students' role

Flipped classroom requires students to complete the autonomous learning of micro class video before each class, which is also the basis to ensure the smooth progress of classroom activities Students should not only spend more time learning the course content, but also have high planning and self-restraint. The traditional role of passive receiver of knowledge cannot meet the needs of the development of flipped classroom Cultivating active learners and active collaborators is also one of the important purposes of introducing flipped classroom and reforming traditional classroom Flipped classroom breaks the limitation of time and space in traditional teaching. Students do not need to complete the learning of a course content according to the same rhythm within a unified specified time. Instead, they can study anytime and anywhere through the

Internet, computers, even mobile phones and other mobile devices. They can choose their own learning progress according to their personal situation and have enough time to think independently, And through the network, they feed back their questions and puzzles in learning to teachers or communicate with classmates In class, students also change from passive knowledge recipients to active learners and collaborators. Through interactive discussion with teachers and students, they actively exchange their understanding and perception of the learned content, and cooperate with group students through classroom activities to deepen their understanding and application of knowledge Over time, students will become active learners when they realize the fun and sense of achievement of learning

# 3. Turn the teacher-student relationship in the classroom

A large number of practices show that the flipped classroom teaching model has promoted positive changes in the relationship between teachers and students, forming a new relationship between teachers and students. With the help of teachers, students continue to develop their potential and decide the specific process of learning according to their own actual situation. Therefore, they respect and love teachers. In addition, teachers become equal participants. In the process of communication with students, the relationship becomes more harmonious and intimate. Specifically, it is first reflected in the equal "teacher apprentice" relationship. To some extent, in the process of building a harmonious relationship between teachers and students, we should respect the premise of equality and integrate it into all links of teaching. Teachers and students realize the equality of status, voice and teaching evaluation opportunities. In terms of status, teaching has become a "one-to-one" form. Through the network platform, students can ask teachers for questions. The situation that they dare not ask teachers in the traditional classroom has been effectively improved. As for the right to speak, because the content of classroom teaching is determined by the joint discussion of teachers and students, students can put forward their own ideas and complete their learning tasks in group communication and cooperation. The equality of teaching evaluation opportunities is mainly reflected in that teachers and students share the evaluation right, and teachers, students and observers become the evaluators of classroom activities. Secondly, it is reflected in the harmonious "debate friend" relationship. Dialogue teaching is an important way to turn the classroom teaching mode. Students are active participants in classroom activities. They can actively express their views and cooperate with group members to complete learning tasks. In this process, teachers become friendly partners for interaction and communication with students, and serious classes become places for students to debate and speak, In the process of communication, the distance between teachers and students becomes closer and more harmonious. Once again, it is embodied in the "partnership" of mutual trust. The foundation of students' autonomous learning is the trust of teachers. In the flipped classroom, teachers are question answering and guides. They should be good at discovering the strengths of different students and give targeted training. For students, teachers become question answering and no longer regulators.

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