# Research on the Practice of Teaching Reform of ''Flipping Classroom'' Based on Micro-course and Moocs

## Wang Miaoting, Yang Hua

Shaanxi Technical College of Finance & Economics, Xianyang 712000, China

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Abstract: The teaching mode of "flipping classroom" based on micro-class is a new teaching idea, which can significantly improve students' cognitive ability and teaching. At present, the research on the design and cohesion of "flipping classroom" in our country is still a blank field, focusing on the characteristics of lessons. The teaching mode and its implementation process of "flipping classroom" are constructed, and the practice of "flip classroom" teaching mode based on micro-course and Mooc is carried out. The "flip classroom" teaching model is promoted. With the popularization of educational informationization, a reform has come to the teaching mode. With the deepening of this reform, "flipping classroom" has become a reality. "Flipping Classroom" is an effective means to reform the traditional classroom and make the essential change of the teaching mode. "Flipping Classroom" is mainly devoted to the reform of teaching design, realizing informationization in teaching environment, and planning classes under the guidance of information technology. Teaching design before, during and after class, so as to realize the transformation of teachers' and students' roles, from teacher-centered to student-centered, breaking the traditional curriculum conventions of the hall.

## 1. The Concept and Characteristics of Micro-lesson

"Micro-lesson" is accompanied by micro-blog, film and so on. It is inseparable from the development of the Internet and the popularization of smart phones. There is no uniform definition of micro-lesson in academic circles, and it is still improving.

Micro-lesson is mainly based on Micro-teaching video. To be a carrier, a situational online video lesson designed and developed for a certain subject knowledge point or teaching link, which supports multiple learning modes lasting usually 5 to 10 minutes in length, are easy to understand and absorb knowledge points. The main characteristics of micro-course are as followed The firstly, taking students'autonomous learning as the service object to meet students' needs for mobile learning; secondly, knowledge focuses on points, with prominent themes and reasonable design; thirdly, Video teaching as the main means to cover other learning resources; lastly, Learning time should be controlled within 10 minutes, not too long 21 minutes

# 2. Design of "Flipping Classroom" Teaching Micro-course

Micro-class is the support of "flipping classroom", which determines the knowledge transfer

before class, the design of teaching activities in class and the teaching evaluation after class.

The design of micro-course pays attention to "situational" and uses multimedia to create situations and purposefully introduce or create actual engineering scenarios and typical workers.

The case analysis that self-made animation simulation scenarios and other vivid and specific scenes, creating an atmosphere of teaching situation, so that students can watch the class and stimulate students'interest in learning, interaction with the surrounding environment, effective guidance

# 3. Teaching Design of "Flipping Classroom"

Construction of the Teaching Model of Flipping Classroom grasps the characteristics of Flipping Classroom. "Flipping Classroom" is not the flip of teaching time and space, but the flip of teaching role. It requires teachers not only to impart classroom content.

The concept and the relationship between new teaching way and old one. The emergence of technology, in the field of school education has also demonstrated the "micro-class" outline. In short, micro-lecture generally refers to "micro-lecture or classroom". According to the foreign research literature, "micro-course" usually includes "micro-course".

There are two meanings of "piece" and "micro-classroom". That is to say, a "micro lesson". It represents a "micro courseware", and a number of "micro courseware" constitute a "micro courseware" whose curriculum we usually refer to "micro courseware" as "micro courseware".

Therefore, "micro-lesson" is based on curriculum standards and teaching core. Video as the main carrier is designed by Rong. It records the wonderful teaching of teachers in and out of the classroom.

The whole process of learning activities. The form of micro-lesson is self-learning, and its purpose is to learn independently. Best effect and design are elaborate information-based instructional design, whose form is flow to media whose content is a knowledge point or teaching link which it can be said that time is short and complete teaching activities. Therefore, for teachers, the most important thing is the key is to make micro lessons from the students'point of view, not from the teachers' point of view. From the angle of production, we should embody the student-oriented teaching thought. To sum up, the basic characteristics of micro-lessons are video, concise and simple. From the point of view of design method, micro-classes usually have the following two production schemes: one emphasizing the Transferability of Content-the Decline of Unicast Lessons, pure video format; an interactive one-to-one interaction with emphasis on content.

#### 4. MOOCs

Since 2012, MOOCs has made a sudden appearance in universities all over the world. A new trend of online education has been launched. Mocha is the Transliteration of "MOOCs" which means" large-scale open online courses". It is a new metwork learning platform to learn from the world through the Internet which Provides a variety of free online courses. Famous Platform Package Includes: Courser, Audacity, FdX, these three platform courses for Higher education which is equipped with learning and management systems.

MOOCs attracts the attention of many universities because it can serve as a university whose international exchanges, which sharing competition and development between countries, have far-reaching implications platform for impact. Influences of a university can be achieved through information technology which is easy to cross geographical constraints and spread across the globe, which is not only improves the university's "Soft Power" also provides the opportunity to rank among the world's top universities.

From a certain point of view, this new form of teaching organization is more like a teaching

model that integrates education, entertainment and social networking which has advanced technical tools whose courseware and videos can enable students to produce.

Students have a feeling of being on the spot of teaching, which leads to a better learning style proven. To sum up, MOOCs is the latest form of application of information technology in teaching.

A new form of online learning is provided for learners. Innovative technical means to present to students in a more attractive form of videoliving.

# 5. Overseas understanding of "flipped classroom": a face-to-face classroom teaching

On the basis of teaching, it realizes the reorganization of teaching process by using various technical tools. The form of teaching organization, specifically, flipping classroom is a re-adjustment of teaching the organizational structure of teaching and the allocation of teaching time will give students the initiative to learn. Teachers'teaching focuses on communicating, discussing, answering and researching with students.

To solve the difficulties, the students'autonomous is learning time should pass after class whose form is video lectures (micro-lectures, coursework), blogs, e-books, internet that it is collaboration with classmates to discuss and consult information to complete learning tasks.

# 6. Mixed Learning

Mixed learning is "a kind of face-to-face teaching and technology-based media" whose learning environment is formed by the combination of teaching and learning. Through these two kinds of learning reorganization and implementation of learning mode in order to improve teaching efficiency. Some people think that "mixed learning" is a technology, place and teaching side. The multi-faceted integration of law is not the combination of simple teaching organization forms.

Therefore, we understand that blended learning is different learning methods and teaching. The combination of learning elements, with the help of face-to-face teaching and network learning models. Re-organization of teaching resources and implementation of teaching achieves. To improve the teaching efficiency. Among them, mixed learning is not faith. The simple application of information technology and the simple change of teaching form are teaching model which is comprehensive changes of ideas, modes and organizational modes.

## 7. Interrelation among Micro-course, Mooc, Flipping Classroom and Mixed Learning

Micro-class, MOOCs, Flip-class, Mixed Learning which these surge are the relationship between the existing forms of learning? In fact, these generalizations are a close connection between concepts. Some expressions are a kind of teaching thought. Or the different tables of teaching modes in different technological environments or stages of development

The present form, which the teaching idea, is guiding ideology and basic technology contained in them. The technical implementation schemes are interrelated and interwoven to form a complex one. Flipping classroom and mixed learning overlap in meaning.

All of these are to make students more flexible and active in learning, and to make students participate in learning.

In fact, they are talking about the same problem from different sides which mixed combination learning is the guiding ideology of flipping classroom, while flipping classroom is mixed which concrete implementation plan of combined learning. Nowadays, most of the classes are still based on video lectures. But the video length is controlled in 8 to 15 minutes, which is one by one. The micro lesson is a form of technology realization, that is, micro-lesson for. MOOCs provides a more technical solution to the learners'psychological needs.

The case can attract more students to learn and show more effectively their admiration for lessons. Micro-class is the specific technology of flipping classroom. The design scheme, or micro-class, is to realize the organizational form of flipping classroom teaching. To sum up, under the guidance of the idea of blended learning, it turns over the course. Classroom is the implementation strategy and scheme of network teaching, that is, to provide some teachers with some information. There are rules to follow in designing the teaching process. It can also be said that the flipped classroom is a couplet. Micro-class is an important design scheme for realizing flipped classroom. It emphasis on fragmentation of learning resources and interactive selection of learning paths which is shortening of teaching video and instant feedback of knowledge point learning. It is the latest form of the application of information technology in teaching. Technical solutions to make the original teaching videos is more attractive to students. Light and interest are easier to spread in a wide range, which makes network teaching easier.

The form of courseware, technical solutions and tools have changed accordingly. In short, as an educator, for these new things, we should actively study and try to take advantage of its strengths and avoid its weaknesses.

Neither can we blindly chase the wind, easily "turn over the classroom", nor can we reject them all that is neglect the positive role of modern educational means.

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