

# Research on Changes of the Learning Method for “University Computer Foundation” by Micro Lecture in China

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**Abstract:** In recent years, the small class is have more and more people like, it is a short and refined form of teaching. “University Computer Foundation” is a public basic courses in China, and it is open for university freshmen. With the further popularization of informatization technology's education, in the face of more and more problems, it is in the teaching process of this course. We have to change methods for teaching this course. This paper analyzes the problems, it is encountered in the past teaching process for “University Computer Foundation”. This paper also puts forward the direction of the teaching reform for Micro lecture, from pay attention, teacher's "teaching" to students' "learning", and it has carried on the transformation. This paper introduces in detail methods of making Micro lecture, and the implementation plan in this course. We make efforts to further improve the computer technology application in the field of Micro lecture and accelerate the process of information technology curriculum's education informationization.

**Keywords:** University Computer Foundation, Micro lecture, Learning method

## INTRODUCTION

“University Computer Foundation” is a public foundation course offered by university for first-year students. It is a modern future-oriented course along with the informatization development, and it also is an important part of school quality education. This course plays a very important role in training students' computer knowledge, ability and quality. At the same time, “University Computer Foundation” is about the school education informatization and modernization process as the combination of theoretical and technical basic course.

## OPEN QUESTION

The course's goal is to develop and improve literacy of the students' information technology. It is a designated learning areas characterized by practicality, open and exploratory in order to promote students' comprehensive and sustainable development.

At present, the course plays an important role on the basis and origin of training students' computer knowledge, ability and quality aspects. However, since the limitation of the various aspects of this course in the concrete teaching process, there are a few problems.

### Large differences of students' individual abilities for computer

College students come from different areas, and they graduate from different schools. Their original learning processes, the living environments, interests and individual qualities are a big differences about the student's own computer application abilities.

As results, some students can skilled operate computers about the operating systems, application software, the use of commonly used software tools and applications of network and so on. Moreover, they have mastered a programming language.

Most of the students' level in the computer almost stay on the use of the network, and they rarely contact with the rest of the computer functions. There are a small number of students, and they may have little contact or no contact with computer because of family factors, so this part of the students is not abilities to use computers.

### Students' autonomous learning is not easy to implement on computer courses

Now we emphasize the curriculum reform, which can be implemented by students' autonomous learning, Autonomous learning is to make students to independently explore in the learning process, and teachers play the role of the facilitator in the process. Teachers explain theory knowledge, demo, and then

students practice in class. This method is our computer courses' teaching mode.

Sometimes, students practice contents are exactly same with contents of the teacher speak in class. Contents of the other that teachers do not speak in class, they won't begin to do it. Students do exercises through some steps of the recall examples spoke by teacher. However, such course learning mode is not really implement students' autonomous learning in the course.

## **TEACHING MODE FOR MICRO LECTURE**

Micro lecture is a record of teacher education, which is both inside and outside the classroom teaching process around a certain knowledge or teaching link and the whole process of teaching and learning activities [Hu et al.,2013]. It is based on the video as the main carrier, and it is carried out in accordance with requirements of the new curriculum standard and teaching practice.

### **The composition of Micro lecture**

Micro lecture includes a teaching video of the course and the teaching design about topics that are related to the connection test and students' feedbacks. Micro lecture also includes the reflections and comments on the teaching of teachers. Among them, the part of the classroom teaching video is the core part of Micro lecture.

### **The characteristics of Micro lecture**

#### **(1) The teaching time is short**

Micro lecture is equivalent to a course, and the length of Micro lecture is ranged from 6 to 10 minutes, not more than 12 minutes. Students can fully concentrate and carefully look at the whole class because time is short.

#### **(2) The teaching content is less**

Teaching contents of Micro lecture mainly are to highlight a certain knowledge point in the process of teaching. In a certain period of time, it can shortly and clearly explain a problem. Micro lecture's contents are more streamlined compared with traditional 45 minutes of a class' content.

#### **(3) Outstanding theme and strong pertinence**

Micro lecture is a subject, and a curriculum is a knowledge. Micro lecture involves the subject, and it comes from specific problems usually met by us in the teaching. It is difficult to break through, but it can be a reflection, a learning method, and a teaching idea, and so on.

#### **(4) Specific content and diversity transmission**

Micro lecture is to solve the specific problems in the teaching process. Since it have specific content, outstanding theme and small resource capacity, students can easily save online or download on terminal equipments, so we can easily realize mobile learning [Chen et al.,2013].

### **The making process of Micro lecture**

#### **(1) Choose a topic**

The characteristics of Micro lecture is short, so a small lesson on the topic can't choose too many knowledge points, it should clearly explain a mainly knowledge point.

#### **(2) The design of the teaching**

Micro lecture is in addition to its classroom teaching video, also contains resources such as lesson plans, and after-school practices. As a result, a good Micro lecture must be all-sided. Designers must be all of the content design and interlinked, and it is a good lesson.

#### **(3) The design of the teaching plan**

Teachers ask questions, which are guide, elicitation, task-driven, teaching contents and demonstrates synchronized, such as teaching strategies in the process of Micro lecture' production. Teaching process should be brief and complete.

#### **(4) Video production**

The production of the video can choose different methods according to the characteristics of the course.

Firstly, teachers can use a portable recorder, blackboard, chalk, and other teaching demonstration tools, which can camera for the teaching process.

Secondly, teachers can use computer, headphone, microphone, video, video software, and PPT lesson plan for recording screen and adding subtitles at the same time.

Thirdly, teachers can use phone, white paper, pen, lesson plans and portable camera tools to combine paper and pencil calculations for the process of teaching.

## **TEACHING REFORM TRAIN OF THOUGHT**

The course of "University Computer Foundation" have been many problems in the daily teaching. The teaching reform of this course is imminent. In order to better adapt to our teaching of undergraduate students learning characteristics, we consider to use the method of Micro lecture to provide a new training for the reform of this course.

### **The realization of video teaching**

In order to realize "University Computer Foundation" course by using Micro lecture form, teachers must take corresponding teaching contents for video. Due to the "University Computer Foundation" curriculum are specifically by the public teaching and research section of the university computer, The course teaching and research section are decided to the focus for the power of the teacher together make corresponding video teaching of this course.

In order to make video teaching contents more suitable for students' learning, all teachers need to elaborate design and reasonable arrangement of

teaching contents. Teaching in the process of each section of the video can not too long so that students can concentrate on the serious every video. Video should be combined with tests of practice teaching, and let students can use tests to check the learning effect. The length of each section of the video is not long, but the length can be more video according to the requirements of the teaching contents. Some video teaching contents can be as develops the content of courses, and students can choose according to their own actual situation to learn relevant knowledge.

#### **Open teaching content**

According to the traditional teaching mode, learning abilities of students can only learn the same points based on progresses of teachers at different learning phases, then they will be hard to take care of the base of good students and poor students. If we through Micro lecture form, most of videos are made for teaching contents. Then through micro class, we can use mobile terminals for mobile learning.

In the process of learning, students can suspend teachers' teaching contents at any time, and they can repeat learning when they are not understand contents.

#### **Reasonable practice and teaching interaction**

After students complete the video, they can also complete online exercises uploaded by teachers. The learning platform can automatic feedback, and teachers can also grasp the students' progresses and learning effect by looking at students' practices. Students can ask teachers some questions on the teaching BBS, and teachers can solve the corresponding problems in time. Students also can ask teachers to use interactive teaching time until the knowledge is understand.

#### **Reform test mode**

The traditional examination method is no longer suitable off in the form of Micro lecture teaching. Especially, "University Computer Foundation" is an operational practical course. As a result, we will divide the course examination into two parts, which are more appropriate methods.

Firstly, teachers upload exercises for students and ask students to online complete them after video learning. Students can know practice according to the feedback from the learning platform, and teachers can also know the students' overall achievement of the whole class through statistical software. This can be a part of the courses examination results.

Secondly, we can adopt comparative economics forms of paperless examination, and students are required to exercise and finish the inspection. This is used as the other part of the curriculum evaluation results.

### **CONCLUSION**

Education informatization is a profound change in the education concept and the teaching model [Li, 2013]. The paper proposes that the "University Computer Foundation" course based on the teaching reform direction of Micro lecture. Moreover, the analysis is met about the problems encountered in the past teaching process. This paper pays attention to from teachers "teaching" to students "learning", and it has carried on the transformation. Also, this paper introduces in detail the method of making Micro lecture. We make efforts to further improve the effectiveness and application of computer technology in the field of Micro lecture and accelerate the process of information technology.

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