

Teaching Design Based on the Concept of Flipped Classroom in Information Environment

Lei Hua

TAYLOR'S UNIVERSITY, No.1, Jalan Taylor's, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia

Abstract: With the development of global modernization and informatization in the 21st century, the integration of innovative Internet technology and new curriculum ideas is deeper. Under the background of educational informatization era, the traditional teaching scheme has the problems of backward teaching ideas and deviation of teaching quality. Nowadays, a brand-new teaching concept emerges as the times require, that is, “flipping the classroom concept”. The concept of flipped curriculum refers to that by giving students sufficient preparation time before class, previewing the course content in advance and arranging the learning progress, teachers and students can exchange their subjects in teaching and cultivate students’ autonomous learning ability.^[1] In today’s education industry, flipping classroom is leading the trend of educational concept reform at home and abroad, adding new vitality to the process of exploration and development in the subjectivity and practicality of teaching. This paper studies and analyzes the instructional design of flipping classroom ideas from the aspects of the combination degree of education and science in the information environment and the development and evolution of instructional ideas. By comparing the new concept of flip classroom with the traditional teaching concept in the past, this paper analyzes what role the concept of flip classroom has played in the development process of educational informatization and what stage it has reached. Then, it analyzes the historical development of instructional design from the perspective of time, thus revealing the background and reasons of the concept of flipped classroom. Show the connotation, characteristics, typical cases, practical functions and specific concepts of the concept of flipping classroom one by one. In recent years, information technology has been closely combined with the education industry, and multimedia and other information devices have been widely used in classroom teaching. Due to the influence of COVID-19 epidemic in China, the classroom teaching mode has been limited. Both college students and primary and secondary school students have changed the offline teaching mode and adopted online classes to study. From a positive point of view, the COVID-19 epidemic has also promoted the development of educational informatization, and researchers are using information technology to improve the education system, which also promotes the development and progress of the concept of flipped classroom. Finally, this paper studies and analyzes how to use information technology to build a rational and systematic cultural discipline system, improve the concept of flipping classroom, and carry out scientific and efficient teaching design, so that students can learn to study independently and improve classroom efficiency.^[2]

Keywords: Information technology; Flip the classroom idea; Teaching design

1. Introduction

With the development of information technology, information technology is widely used in our work and study. The educational informatization with multimedia, computer and Internet as media means has also been developed in depth. The concept of flipped classroom provides a brand-new idea for the research of teaching mode, which has practical significance of educational guidance. Innovation is made on the basis of traditional teaching methods, so that teachers and students can exchange in the main relationship between teaching and learning, thus stimulating students’ interest in learning, further improving students’ learning efficiency and developing the habit of autonomous learning. Then, under the guidance of the new teaching concept of flipping classroom, how to design the teaching to achieve the success in teaching sense is a common concern of educational researchers at home and abroad. Turning over the classroom concept has changed the traditional teaching form. In the classroom, it is no longer just the teacher who teaches knowledge step by step, but only the process of “teaching”, which does not achieve the efficiency of students’ “learning”. Instead, it is the interaction between teaching and learning, and the knowledge is absorbed by students imperceptibly. Through the instructional design based on the concept of flipped classroom in the information environment, students can not only master the basic subject knowledge, but also gain a deeper understanding, so as to cultivate the lifelong academic ability of focusing on autonomy.^[3]

2. Flip the background of the classroom

From 1970 to 1980, with the development of information technology on the Internet, the information age was ushered in, and the innovation of educational model changed accordingly, which promoted the process of educational informatization.^[4] In 2020, the country basically established a teaching information system covering all kinds of schools, such as primary and secondary schools, and flipped classrooms have mushroomed in the field of education. Then, because information technology has brought great changes

to education, changed the way and way of knowledge transmission, improved the educational system, etc., the concept of flipped classroom has gained a lot of attention in the field of education, and educators have also studied the educational design of flipped classroom concept under information technology.

3. Flip the characteristics of the classroom

Turning over the classroom concept under the background of information technology means that in the classroom, teachers use information technology to carry out teaching mainly in the form of making teaching PPT, downloading video materials about knowledge, applying multimedia network and so on. After the teacher prepares the learning content of a class, let the students watch and learn repeatedly through their own understanding of knowledge, and then arrange the corresponding homework according to the students' different learning levels. After that, the teacher asked the students to form a study group in the class and join the teacher in the discussion of the knowledge learned in the class. Students with good learning ability can share their understanding of what they have learned, and check for missing parts. Students with poor learning ability can also get into the learning state quickly under the guidance of teachers and classmates. This kind of teaching idea is just the opposite of the traditional classroom teaching idea, so it is called "flipping classroom idea".

4. Teaching design based on the concept of flipped classroom in information environment

Turning over the classroom concept in information-based education requires teachers to prepare for education before class. First of all, teachers need to sort out classroom knowledge points in advance, record teaching videos according to the professor's emphases, difficulties and emphases, and upload them to the network client. This is the prerequisite for reversing the classroom teaching mode. Then, teachers should adopt the teaching mode of teaching students in accordance with their aptitude according to their different learning abilities through the sorted teaching contents, so that students can make progress step by step in the learning process and gradually study in depth. Among them, the logic and quality of the teaching video is the key to the success of flipping the classroom. Flip-over classroom in information technology requires that the design of teaching video should be student-centered, fully consider students' thinking, psychology, learning ability and other factors, and use pictures or mind maps to vividly display abstract subject knowledge in front of students. After watching the teaching video, the students complete the classroom assignments arranged by the teacher, and then talk and communicate with other students according to their understanding of what they have learned. Then the teacher will summarize the results together, have a preliminary judgment on the students' learning achievements, and pave the way for the follow-up knowledge learning.

5. Summary

Under the background of information technology, turning over the classroom teaching style has changed the traditional teaching method, focusing on classroom practice, so that students can cultivate their thinking ability, further deepen their impression, deepen their learning content, develop the habit of autonomous learning, and promote a good relationship between teachers and students and learning atmosphere.^[5] Through the research of instructional design based on the concept of flipped classroom under the information environment, it is an innovative way to continuously enrich, develop and improve teaching methods in the information-based teaching practice in China. It is our country's teaching philosophy to adapt to the development of the times, change the traditional teaching mode, embody the combination of teaching and learning, and realize student-centered. Not only that, the concept of flipping the classroom is not only dedicated to teaching students subject knowledge and improving their learning efficiency, but also to guiding students to establish a correct outlook on life, values and world outlook. Therefore, the research on instructional design based on the concept of flipped classroom in the information environment is the most important thing to promote the combination of education and information technology, develop China's education, improve China's teaching quality and create an innovative education model in the development process of educational informatization.

References:

- [1]Qin Weiwei. Flip learning: a new paradigm of classroom teaching reform [J]. Audio-visual education research, 2013(8).
- [2]Liu Xiaojing, Zhong Qi, Zhang Jianping. Research on the application of flipped classroom model in data structure classroom teaching [J]. China Audio-visual Education, 2014(8).
- [3]Zeng Mingxing, Zhou Qingping, Cai Guomin. Research on flipped classroom teaching mode of software development courses [J]. research and exploration in laboratory. 2014(2).
- [4]Zhong Xiaoliu, Song Shuqiang, Jiao Lizhen. Teaching design research based on flipped classroom teaching concept in information environment [J]. Open Education Research, 2013(2).
- [5]Luo Jinling. Instructional design based on flipped classroom concept in information environment [J]. Teaching the sea to explore new ideas .2016 (5).