

# Research on the mixed active teaching method of curriculum in colleges and universities

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## Abstract

*Emergencies have brought uncertain factors to the offline curriculum teaching in colleges and universities, which has put forward higher requirements for the quality of curriculum teaching in colleges and universities. The reasonable design of normalized emergency response plan to solve the above problems has become the focus of current teaching research. In view of the problems existing in the current education and teaching, and considering the needs of talent training in colleges and universities and the needs of social practical talents, this paper proposes a hybrid active teaching mode curriculum teaching method. The purpose of this paper is to provide a certain method support for the construction of higher education and teaching theory system.*

## 1. Analysis of the current teaching situation

Emergencies have brought uncertain factors to the offline curriculum teaching in colleges and universities, which has put forward higher requirements for the quality of curriculum teaching in colleges and universities. The reasonable design of normalized emergency response plan to solve the above problems has become the focus of current teaching research. In view of the problems existing in the current education<sup>[1][2]</sup>, and considering the needs of talent training in colleges and universities and the needs of social practical talents, this paper proposes a hybrid active teaching mode curriculum teaching method. The purpose of this paper is to provide a certain method support for the construction of higher education and teaching theory system.

The classroom teaching and practice mode under the center line of the curriculum teaching mode in colleges and universities has been in the primary position of the main teaching mode for a long time. It is easy to find out from a deep perspective the reform of higher education curriculum teaching mode<sup>[3]</sup>, such as flipped classroom, small class teaching, micro classroom teaching, and Mu class. A large number of educators have devoted themselves to the curriculum reform of higher education, highlighting the launch and implementation of many new teaching reform programs. With the arrival of the era of "Internet plus", the combination of "online" and "offline" teaching methods came into being. This teaching method has long existed in the course teaching process of colleges and universities. But the "online" teaching mode always exists in the accompanying teaching mode. This simple superposition of "online" preview, review, homework and other forms has led to many criticisms, which has not played its real educational value. The emergence of epidemic and other emergencies makes this simple combination of hybrid teaching method unable to cope with. How to combine "online" teaching and "offline" teaching to form an organic mixed teaching mode is an important issue that colleges and universities urgently need to discuss in the context of the impact of public emergencies in the era of education informatization.

## **2. Characteristics and key points of mixed teaching**

With the popularization of digitalization and information technology, various education departments are striving to promote the reform of the teaching methods of courses in colleges and universities. "Online" teaching can present the personality of knowledge points to students through vivid pictures, videos, animations and other ways. The "offline" teaching method can effectively understand the students' control of classroom teaching knowledge and the psychological state of students' participation in the curriculum. The hybrid teaching method can take into account the characteristics of the "online" and "offline" teaching approaches, which is convenient to achieve complementary advantages. The main purposes of the promotion of the mixed teaching mode include two aspects: (1) In the first aspect, this method can deal with the impact of epidemic and other types of emergencies, and ensure the orderly progress of teaching in colleges and universities without affecting the policy promotion; (2) Second, this method can fully combine the content of the curriculum system to enhance the students' initiative, enthusiasm and creativity in participating in the curriculum teaching.

According to the different proportion of teaching research methods, mixed teaching methods can be simply divided into three categories. The first type refers to the "offline" teaching, which mainly exists in the offline hands-on practice course teaching, and requires students to participate in the course teaching practice, such as surveying and mapping practice, offline data collection, engineering practice and other types of courses. The second type refers to "online" teaching, which is mainly used to meet the requirements of curriculum teaching or teaching methods under special circumstances, such as analytical courses and curriculum teaching under the influence of emergencies. The third type refers to the "online" and "offline" teaching modes which are equally important. This type of mixed teaching mode mainly adopts micro classroom online teaching for key and difficult knowledge points, which is convenient for students to learn and review, and can effectively solve students' questions and timely answer questions; The "offline" teaching part of this model focuses on the control of the overall knowledge system and classroom guidance for students, which belongs to the equally important teaching mode of the two models.

## **3. Mixed active teaching method**

With the popularization of information network technology and the promotion of digital system construction, the reform of new teaching forms has gradually become an inevitable demand for the sustainable development of high-quality teaching in colleges and universities. At present, the purpose of teaching in colleges and universities is to use all available resources to cultivate and improve students' skills and knowledge reserves. The mixed curriculum teaching mode is a combination of the advantages of traditional class teaching system and personalized learning in digital teaching. This teaching method comprehensively considers the advantages of digital teaching method and traditional classroom teaching, and integrates the two into one.

The active teaching method aims to improve students' ability to learn independently and explore knowledge actively. The teaching reform plan combines the active teaching method with the mixed teaching method, and adopts the teaching method of multi-point integration. This method can effectively improve the depth and breadth of students' mastery of curriculum teaching knowledge, and truly realize the connection between teachers and students in teaching and learning. The implementation of the teaching plan of the integration of active teaching methods and mixed teaching process (hereinafter referred to as the mixed active teaching mode) requires mastering the following elements.

(1) The first element is to condense teaching knowledge points and make a mind map of knowledge system

The teachers' mastery of the knowledge system of curriculum teaching has a direct impact on the teaching

effect of the curriculum. If the teachers do not have a solid grasp of the course content and the depth and breadth of knowledge points are insufficient, it is difficult to control the teaching scene of the course and answer the students' questions in depth. Therefore, the mixed active teaching mode requires teachers to deeply study the curriculum knowledge system, establish a mind map of the knowledge system, and make the curriculum knowledge and ideas have visual characteristics. This element is helpful for teachers to break the traditional teaching mode, cultivate students' clear knowledge understanding, improve students' understanding of curriculum knowledge and basic knowledge, and cultivate students' innovative thinking ability.

(2) The second element is to divide the important and difficult points of the course teaching content, and form the teaching mode of Muke

The development of information based teaching mode caters to the needs of the times and the transformation of digital teaching. This element requires teachers to comprehensively master the key and difficult points of teaching knowledge in the curriculum system, and realize the teaching of curriculum knowledge through the form of micro video. The purpose of making the course micro video is to clarify the purpose and content of the course teaching within 10 minutes, and form a solution to the problem of short content and difficult knowledge. This kind of teaching method is helpful to improve the teaching ability of teachers and the diversity of students' ways of learning knowledge at the same time. Students can use extracurricular time for self-study. The Mu lesson teaching mode requires that teachers can use a concise and straightforward way to complete the teaching of knowledge points, and the content has the characteristics of core, orientation, situational, vivid, etc., which can guide students to use their eyes, brains, and hands to learn together. The teaching video and classroom teaching of the course are synchronous and complementary to each other to solve the problems that are difficult to solve directly in the process of classroom text teaching and learning and the reappearance of important and difficult lessons.

(3) The third element is to coordinate the curriculum project plan and develop a project oriented tracking system

The real education is to promote students' active participation in curriculum teaching and realize the education mode of students' self-education. Project oriented is one of the ways to master curriculum knowledge points and extension knowledge. This mode aims to improve students' abilities in independent innovation, problem tracking, ideological creation, cooperation and communication, and is an important value pursuit of modern education. The instructor shall formulate the topic or direction of the curriculum project according to the content and relationship chain of the curriculum system. Students randomly select project topics through the self formation mode, carry out curriculum project practice activities for a course teaching week, and form a cooperative group learning mode. Teachers track the progress of each group's learning and project implementation by stages, and adopt the method of group report by stages and mutual evaluation to promote the stage evaluation and integral system, so as to improve the implementation of process teaching. This way is helpful to cultivate students' excellent self-management ability, teamwork and competitive consciousness.

(4) The fourth element is the collision of equal ideas to achieve independent management and sublimation

The main idea of the collision of equivalence ideas is to break the inherent mode of teachers' teaching and realize the interactive participation of students. This kind of interactive participation is not the traditional flipped classroom, but the exchange of curriculum knowledge between students and teachers. In short, the collision of equivalence ideas is the debate on knowledge points between teachers and students, the sublimation of knowledge system, and the optimization of teachers' teaching methods. In the form of project groups, students regularly hold knowledge questions and debates with teachers to guide students to conduct in-depth research on the knowledge they have learned, and at the same time, increase the ways for teachers to master students' learning ability. This mode can enable students to master the essence of knowledge, guide

students to deeply reflect on their own learning content and knowledge, and actively adjust and improve their learning methods. At the same time, this mode can also strengthen the teachers' mastery of teaching knowledge, and can understand the students' mastery of knowledge points in the learning process, thus providing support for the design of subsequent teaching ideas and plans.

Table 1 Implementation Elements of Hybrid Active Teaching Mode

Corresponding elements	Project	Objective
Element 1	Development of course knowledge mind map	Visualization of course knowledge and ideas
Element 2	Support for the teaching mode of Mu lesson	Precise simplification of key and difficult points
Element 3	Course project plan formulation and tracking	Learning process tracking guidance
Element 4	Peer to peer exchange of ideas	Improvement of learning methods and teaching methods

#### **4. Teaching practice effect**

In view of the research on curriculum teaching in colleges and universities under the background of normalization of epidemic prevention and control, the mixed active teaching mode is mainly proposed. As a new teaching state group, this teaching mode can integrate the advantages of traditional class teaching with the characteristics of digital information teaching, and can better adapt to the requirements of the times of modern teaching information reform in colleges and universities. In order to understand the effect of this reform model, the expected teaching effect is presented by taking the engineering technology courses of a university as an example. The effect evaluation of the mixed active teaching mode is mainly carried out from the aspects of knowledge mastery, skill expansion, initiative ability improvement, cooperation awareness enhancement, competition awareness improvement, student performance ability and comprehensive evaluation. The main evaluation is divided into: A (excellent), B (good), C (general), D (poor). Through the summary and integration of the survey data, the project team can get the comprehensive degree of knowledge mastery evaluation as A and skill development; The comprehensive evaluation of initiative capability improvement is B; The comprehensive evaluation of strengthening the sense of cooperation is B; The comprehensive evaluation on improvement of competition awareness is B; The comprehensive evaluation on the cultivation of students' performance ability is A; The comprehensive evaluation result is A. Through the above comparison, the expected effect of the mixed active teaching mode proposed in this paper is obvious.

#### **5. Conclusion**

This paper mainly combines the background of the digital information age and the needs of the current education and teaching reform in colleges and universities, and puts forward the idea of integrating active teaching into the currently widely used mixed teaching mode. The purpose of this method is to improve the students' active learning ability in the teaching process, and improve the students' participation in the teaching process and the depth and breadth of knowledge. Furthermore, four basic elements required by this teaching reform plan are put forward, and the basic objectives and requirements of each element are elaborated. Finally, through the analysis of the expected teaching effect, the feasibility of the application of the hybrid active

teaching mode and the related effect explanation are given.

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