

Analysis of Online and Offline Mixed Teaching Mode

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ABSTRACT. With the extensive use of the Internet in teaching, the application and development of digital course construction and mobile cloud teaching provide an opportunity for the development of Hybrid Teaching in Colleges and universities. The mixed teaching mode realizes the construction of students' knowledge before class, the timely deepening of knowledge in class, and the review of knowledge after class, which promotes the socialization and game of learning. Blended teaching adopts Online + offline learning mode. Online learning focuses on students' task-based autonomous learning, while offline learning focuses on problem-solving interactive learning. Relying on the platform of education and teaching, taking specific course teaching as an example, this paper explores how to change students' learning from single learning mode to diversified learning mode under the mixed teaching mode, how to improve their self-learning ability in a more open learning environment, and how to improve learning efficiency and cultivate solution practice by using more abundant teaching resources The ability to question.

KEYWORDS: Education and teaching platform, Mixed teaching, Online and offline teaching, Mode

1. Introduction

Professor He Kekang believes that blended learning should not only play a leading role in guiding, enlightening and monitoring the teaching process, but also fully reflect the students' initiative, enthusiasm and creativity as the main body of the learning process.^[1] Therefore, with the development of information technology, new technology should be combined with the traditional teaching mode to form a new teaching concept in line with the development of education. Professor He Kekang pointed out that the blended teaching design represented by flipped classroom combines students' autonomous learning with teachers' classroom teaching, and transforms students' passive learning mode into a new learning mode of diversified interactive learning.^[2] This theory emphasizes that students are the main body in the mixed teaching process, and students are more conducive to personalized learning. In the aspect of interaction, the interaction between teachers and students in the traditional classroom has changed into the interaction between students and environment, students and resources, students and technology.

With the rapid development of intelligent terminals, the popularization of "Ubiquitous Learning" and "lifelong learning" concepts, educational apps have sprung up in a large number. Educational apps have the characteristics of low technical threshold, low cost and wide application range, which can be applied to the learning in various stages such as before class, in class and after class.^[3] Learning Pass app is a mobile learning application software tailored for teachers and students. It is a platform for course learning, knowledge dissemination and management sharing based on microservices.^[4] The main learning links provided by learning app include courses, rich teaching resources, micro applications, etc. Courses can be built according to teaching needs and learning resources based on single course can be created. The app also provides a variety of small programs such as knowledge challenge, discussion, ability evaluation, check-in, etc., which provides a variety of access to resources and an open learning environment for students' learning.

2. Analysis of College Students' Cognition of Blended Learning

Through the questionnaire survey to understand the situation of online learning of college students, compared with classroom learning, which difficulties and factors students encounter in online learning will affect learning efficiency. According to the survey results, the countermeasures are put forward. The content of the survey is about the current situation of College Students' blended learning: when and when online learning is generally conducted; how long is the online learning time; how much knowledge is accepted and the reasons that affect students' online learning. It provides a theoretical basis for the construction of hybrid teaching mode and the design of specific teaching cases.

As shown in Table 1 below: when college students arrange their study time, they tend to choose online learning to solve their own problems when they encounter difficulties and need immediate help. However, the time arrangement of

students is more casual, and the number of students who arrange a fixed time for study every day only accounts for a small part, most of which are the same Learning in the process of learning does not clearly arrange their own learning plan and their own learning time, lack of learning initiative.

Table 1 Daily Online Learning Schedule of College Students.

Time arrangement of students' online learning	
Every day we arrange time for study	37.33%
Leisure time	24.75%
In case of difficulty, you need it immediately	46.63%
Look at your mood, want to learn	26.25%

As shown in Table 2 below: students prefer to download software app or search for information they need online when choosing learning methods. Due to the development of information education, the construction of various network teaching platforms and network courses provide different choices for students' learning needs. Students can choose a suitable learning method according to their own situation and needs, and obtain teaching resources to meet their learning needs anytime and anywhere.

Table 2 Ways for College Students to Acquire Learning Resources Independently.

The way for students to acquire learning resources independently	
Search the information needed on the Internet	78.56%
Download learning software or App	83.23%
Browse the learning website	35.76%
Other	0.55%

As shown in Table 3 below: college students like to study independently in the process of online learning, only a small number of students will choose cooperative learning. Students in the learning process are more to find their own learning resources for the purpose of teaching teachers and students, students and students interaction is not enough, affecting students' choice of learning methods and the improvement of learning efficiency.

Table 3 the Way Of Online Learning for College Students.

How students learn online	
Study independently	70.23%
Online communication with teachers	30.06%
Participate in community discussion	37.33%
Other	9.53%

To sum up, although college students do not have a systematic plan to arrange their own online learning plan after class, most students still meet their learning needs through online learning. In the learning process, compared with the online interactive learning with teachers and participation in the discussion area and collaborative learning with classmates, most learners prefer to study independently. When students encounter difficulties in the learning process and ask for help, they often can't get timely solutions. Students lose interest in online communication, which makes students unable to understand and consolidate knowledge in time Affect the confidence and progress of students' learning.

Therefore, the existing situation shows that college students have the conditions of online learning. How to combine online teaching with offline teaching, make up for the problems in the teaching process, give full play to their respective advantages, and improve the learning efficiency and learning experience in the process of blended learning. With the help of learning software platform or app, the basic framework of hybrid teaching mode is designed.

3. The Construction of Application Mode of Blended Teaching in Curriculum Teaching

3.1 Construction of Implementation Process of Blended Teaching

The mixed teaching mode is mainly divided into two stages: online stage and offline stage. In the online stage, the teacher should do the following work: select the online education teaching platform, upload recorded video, course PPT, electronic teaching materials, and make a learning task list for students to test the learning effect according to the task list in the autonomous learning stage;^[5] supervise students to complete teaching tasks and collect and sort out students' problems. The students carry out self-learning according to the task list, cooperate with teachers and students on the education platform, complete the teaching tasks, conduct online tests, and sort out the problems encountered in the learning process. Offline teaching mainly solves the problems existing in the process of online learning. The traditional

teaching mode is no longer used in teaching, but the interaction between teachers and students is the core. In the form of group discussion, students are guided to carry out autonomous learning and collaborative learning, As shown in Figure 2:

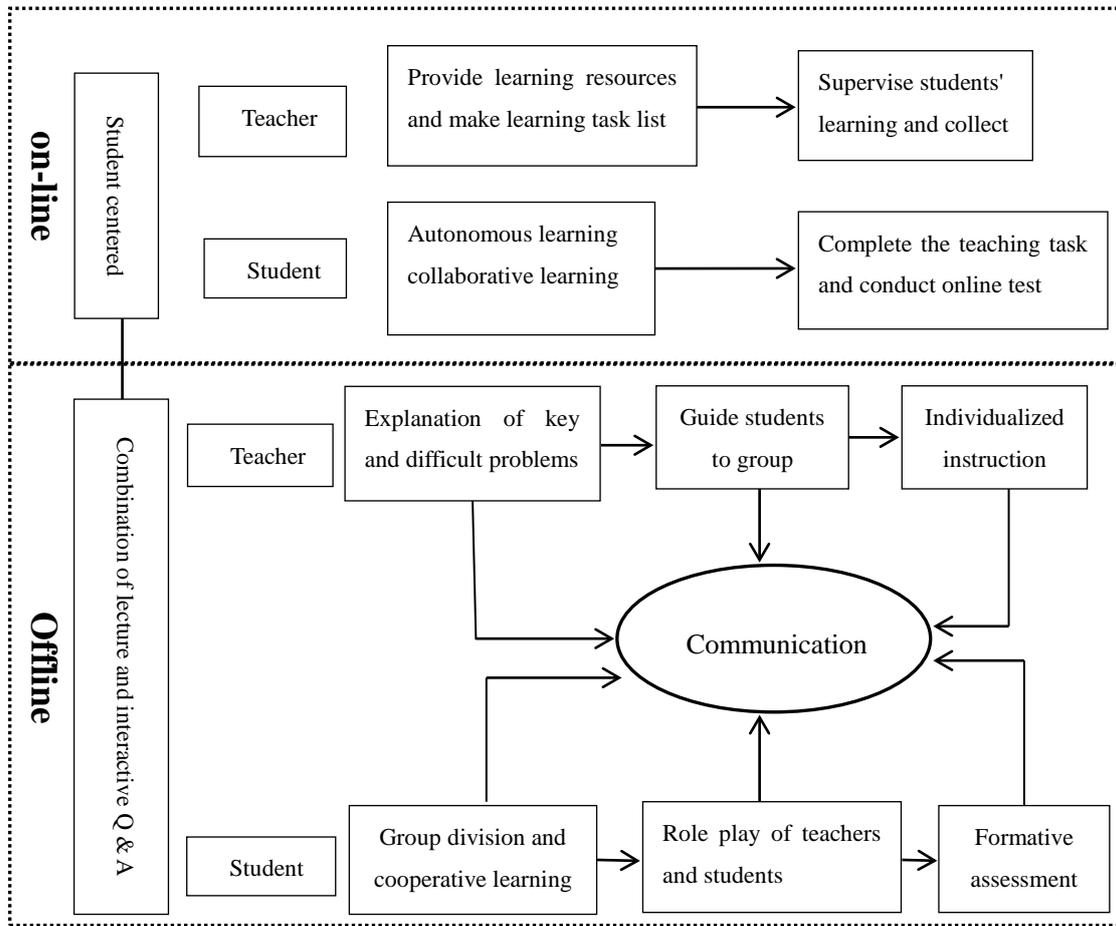


Fig.1 Construction of Mixed Teaching Mode.

3.2 Practice of Hybrid Teaching Mode Based on Education and Teaching Platform

“College Computer Foundation” includes two parts: theoretical teaching and practical teaching. The paper selects the mixed arrangement function of word in word processing software of office information processing in practice teaching to carry out teaching with the task of making electronic blackboard newspaper. Super star learning channel is used for online and offline mixed teaching mode.

3.2.1 Online Learning Stage

(1) Teachers enter the teaching platform and build online course content

Around “electronic blackboard newspaper” this teaching task needs to achieve the teaching goal. Teachers will refine and decompose the course content, record videos or micro lectures that explain the operation of each function, upload various learning materials to the education and teaching platform, and publish detailed learning tasks, learning lists, topics to be discussed and tasks to be completed for each knowledge point. Upload the collected video case of making electronic blackboard newspaper and excellent achievement display chart.

(2) Students enter the learning app for Online Autonomous Learning

After entering the learning pass, students first read the learning plan, understand the learning content, analyze the teaching objectives, and master the key and difficult points of learning. Then watch the teaching video of each knowledge point after learning refinement, and you can watch the learning repeatedly according to the situation that you master. Read the list of learning tasks carefully, complete each task as required, and communicate with students and

teachers on the topic of discussion. Through watching the video case of making electronic blackboard newspaper and the excellent achievement display diagram, the design of the work to be completed is conceived. In the learning process difficult to solve the problem, collate into a list to upload.

(3) Online tutoring by teachers and sorting out students' online learning achievements

Exchange learning experience with students in the discussion area and comment on their discussion and speech. Supervise the students to complete all the learning tasks, mark the assigned homework, understand the students' mastery of knowledge, collect and summarize the list of students' problems, and sort out the main difficulties of students. Through the statistical analysis of learning situation, we can understand the overall learning dynamics of students and provide the basis for offline teaching to formulate learning tasks.

3.2.2 Offline Learning Stage

According to the situation of online learning, teachers formulate teaching objectives, adopt problem-based teaching method, and carry out teaching mainly by students' autonomous learning and cooperative learning. The specific teaching process is as follows: ask questions, create situations → make plans and carry out teaching → group division of labor, task allocation → autonomous learning, production of works → report and exchange, show the results → self-evaluation, mutual evaluation, summary and reflection,As shown in Table 4:

Table 4 Case Teaching Process of Electronic Blackboard Newspaper.

teaching process	Teacher activities	Student activities	Design intent
Ask questions and create situations	Show the homework completed by a typical student, and discuss the problems in the homework: the use of text border and text box is confused, the page layout is not reasonable, and the mixed arrangement of pictures and texts is not beautiful enough.	Exchange and talk Identify the problem	Create situation Provide pre requisite knowledge Clearly accomplish the task
Make plans and carry out teaching	Make clear the theme of electronic blackboard newspaper, and make the operation sequence of production. This paper explains the operation difficulties existing in students' online learning	Listen carefully Positive thinking Exchange and discussion	Clear teaching objectives Generating teaching tasks
Task assignment	There are 40 students in this class, which are divided into four groups with 10 students in each group. The tasks are assigned according to the teaching requirements.	Clear mission requirements Group cooperation operation	Practice more Constructing knowledge system
Report and exchange, show results	After the completion of the work, organize students to report and exchange, show the results, and give affirmation and evaluation to the students' works.	Report and exchange Discuss the work Communication difficulties	Exchange with each other and learn from experience
summary and reflection	Teachers analyze and summarize the quantity and quality of the works submitted by students. At the same time, let students evaluate each other, learn from each other and improve together	Listen carefully Recall what you learned	Consolidate the learning content of this section Self evaluation and mutual evaluation

3.3 Analysis of the Practical Results of Blended Teaching Supported by Teaching Platform

After the end of teaching, in order to better highlight the advantages of hybrid teaching. This paper analyzes the effect of the following aspects: the evaluation of students' learning process, the evaluation of the quality of works, and the way of interaction between teachers and students.

3.3.1 Evaluation of Students' Learning Process

Mixed teaching not only emphasizes the teaching results, but also pays attention to the students' learning attitude, the ability of finding, analyzing and solving problems, the ability of cooperation and communication, and the consciousness of innovation and cooperation. Through blended learning, students' learning objectives are more clear, and their autonomous learning ability can be improved. To a certain extent, it can stimulate students' interest in learning,

change their learning attitude and actively participate in teaching. Teachers can also be free from frequent teaching, according to the characteristics of students' learning, individualized teaching can be achieved to a certain extent, greatly improving the teaching efficiency.

3.3.2 Evaluation of Students' Works

In the traditional teaching, students follow the steps of teaching while speaking and practicing. Therefore, students' works are lack of innovation and the works are simple. It is difficult to cultivate the ability to find, think and solve problems. Mixed teaching changes the dominant position of teachers. Teachers guide students to understand the operation process through online teaching, and find the problems in the operation process, and only solve the existing problems in the offline teaching. Teaching is targeted, and students can produce works with distinct subjects and complete contents.

3.3.3 The Way of Interaction between Teachers and Students

The interaction between teachers and students has changed from face-to-face mutual assistance to the combination of online synchronous communication and asynchronous communication. Online discussion, online real-time chat. You can communicate with each other by signing in, voting, selecting people, and rushing to answer through the app. Various forms, convenient and flexible, can effectively promote students to actively participate in learning, get more sense of participation and existence, and stimulate learning motivation.

4. Conclusion

The mixed teaching carried out through the education and teaching platform has good teaching effect in specific teaching practice. It reflects the combination of online and offline learning environment, students can not only better adapt to the new teaching mode, but also get more novel learning experience from it. To a certain extent, it also verifies the necessity and feasibility of the mixed teaching mode in this paper. With the help of education and teaching platform, teachers can obtain more teaching materials to build courses. Use the rich functions of the platform to carry out teaching and create a flexible and interesting learning atmosphere. The combination of online and offline can reduce a lot of unnecessary classroom teaching environment and make teachers and students have more time to communicate and communicate. In the mixed learning mode, students are mainly autonomous learning, they can find more problems in the learning process, from the traditional acceptance learning to discovery learning, students are more active in the learning process, the purpose of learning is more clear. In addition, we can carry out various forms of teaching evaluation with the help of the supervision mechanism of the platform.

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