

## Exploration of Hybrid Teaching Model Based on “Rain Classroom”

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**Abstract:** Rain Classroom is a hybrid teaching tool launched by “School Online” under the background of mobile Internet and big data. The functions of multi-screen interaction, question answering screen and large data analysis can be realized by using Wechat and PPT. Aiming at the combination of information technology, PPT and Wechat, the communication between pre-class, in-class and after-class is formed, so that the classroom is always online. Teachers release video, courseware and other teaching materials before class. Students can realize online preview. Teachers can learn about students' preview through Rain Classroom through the Rain Classroom feedback, the problems encountered in the learning process effectively shorten the communication path between teachers and students. The research shows that the Rain Classroom design a new hybrid teaching method of management courses, which realizes all-round interaction between teachers and students, which helps to improve the overall quality of students and enhance the teaching effect. Integrating learning theories such as behaviorism, cognitivism and constructivism, the hybrid learning model has become the mainstream of the information-based teaching model.

### 1. Introduction

Informationization technology has brought about changes in all walks of life. Under the sweeping wave of educational informationization, it seems that traditional teaching mode is gradually being replaced by digital teaching mode [1]. However, many practical studies have proved that in the open network platform and network environment, due to the lack of in-depth participation of teachers and the actual classroom. On the basis of the rapid development of Internet, hybrid teaching combines the advantages of traditional teaching and network teaching. It can not only give full play to the leading role of teachers in guiding, inspiring and monitoring the teaching process, but also fully reflect the initiative, enthusiasm and creativity of students as learning subjects [2]. Under such circumstances, how to improve the quality of classroom teaching and ensure the efficiency of classroom teaching has become a hot research topic. This paper takes the solution of classroom teaching efficiency and quality as the basic starting point, and utilizes the “school online” network platform resources and the use of “Rain Classroom” mobile phone software. Increase the communication density with students and get feedback from students in a timely manner [3]. The “Rain Classroom” is organically integrated with its own teaching methods, and a mixed teaching model is gradually formed. Practice has shown that the “Rain Classroom” smart teaching tool can make students have a new experience in every learning session before class, during class and after class. It has greatly stimulated the students' enthusiasm for learning and maximized the energy of teaching and learning [4].

With the advent of the cloud era, information technology has greatly changed our teaching methods, and the traditional classroom teaching mode has also begun to change. In 2013, the design and testing of the care teaching model within the framework of Chinese care theory was proposed by relevant scholars [5]. Since then, the mediating effect of context variation in the mixed practice of basic science transfer has been proposed by relevant scholars [6]. Since 2015, personal and social responsibility and transfer of learning have been proposed [7]. The online hybrid teaching tool is designed to connect the intelligent terminals of teachers and students, and give each link of pre-class, in-class and after-class a brand-new experience. And support multi-screen interaction, answer questions, big data analysis and other functions [8]. With the deepening of informatization education reform, mixed teaching is increasingly applied to higher vocational education. How to

apply mixed teaching reasonably and effectively to project courses and solve problems in project-based teaching is an important problem in the reform of higher vocational education [9]. Guide students to prepare before class and conduct online self-learning; during class, students exchange, share the results of pre-study, and discuss difficult problems or confusion encountered in pre-class study. Teachers and students interact with the barrage, and teachers can answer questions in real time and explain the knowledge and rules of difficulty and difficulty in a timely manner. After class, students learn to reflect on the data automatically pushed by the system and accept new learning tasks. The traditional model of “teacher-based professors” is transformed into a model of “student-based learning”. It is neither a complete liberation of teachers to move the classroom to the Internet, nor a simple mechanical addition of “online” and “offline”. Through guiding and stimulating the role, the teacher develops students' interest and improves students' ability to achieve optimal learning effects [10].

## 2. Materials and Methods

With Rain Classroom, teachers can easily make PPT and insert video, and make full use of MOOC resources. In addition to classroom communication, teachers and students can communicate at any time after class. The virtual online teaching environment greatly broadens the learning time and place. In the assessment mode, we must add and increase the proportion of Rain Classroom assessment, which can effectively urge and motivate students to complete the related learning tasks such as preview, test, review and so on. These contents are supported by relevant data in the Rain Classroom for statistical analysis. The online environment provides effective support for mixed teaching and learning. It allows students to learn in addition to the classroom, in places such as libraries and dormitories where they can access the Internet. Based on the network teaching platform and the excellent education and teaching resource library, the hybrid teaching and learning can not only play the leading role of the teacher to guide, inspire and monitor the teaching process. It can fully reflect the initiative, enthusiasm and creativity of students as the main body of the learning process.

Project-based teaching is often combined with group cooperative learning, but in traditional teaching, the cooperative communication between group members is mainly face-to-face communication in the classroom. Often, due to insufficient communication and interaction between group members after class, they can not effectively complete pre-class and after-class tasks, and can not communicate with teachers in time when they encounter problems, which affects the completion of tasks and reduces the enthusiasm for learning. The innovation of teaching methods is the basic means to improve the effectiveness of teaching Chinese as a foreign language, and the application of information technology has created a favorable opportunity for this behavior. In the process of teaching Chinese as a foreign language, teachers can use multimedia to replace traditional blackboards and enrich the knowledge classroom with rich elements such as words, sounds, images and videos. Enhance students' understanding while increasing their enthusiasm for participation. Promote the development of students' thinking ability. In addition, all behavioral data in the student's learning activities will be automatically collected by the system, which will help the teacher to fully grasp the students' learning status. It also helps students to carry out learning reflection and behavior improvement, and truly transforms the traditional one-way transfer knowledge into a two-way interaction between teachers and students.

Classroom teaching is mainly based on lecture, which is carried out according to the teaching arrangement of teachers and lacks the means to grasp the teaching effect promptly and effectively. Moreover, after-class review, although also combined with some means of information technology. However, due to the slow change of online resources, there is a lack of targeted questions for classroom problems. Make Rain Classroom push courseware. Wechat login click on the new courseware, you can begin to make mobile phone adapted “push courseware”. At this time, we can insert in the courseware such topics as Mu lesson video, network video, single-choice, multiple-choice, voting and so on. In the process of using the Rain Classroom to edit courseware, all the functions of the PPT itself can be used, and various contents such as formulas and graphic

charts can be inserted. In addition, the teaching of Chinese as a foreign language can also use the situational teaching method, the questioning teaching method and the inquiry teaching method. Specifically, when the teaching of Chinese as a foreign language reaches a certain stage, a virtual practice environment is designed, and questions are raised, students are discussed and discussed, and the listening, speaking, reading and writing practice is organically integrated. And test students have both Chinese proficiency. The Rain Classroom teaching form is shown in Table 1.

Table 1 Rain Classroom Teaching Form

	Test	Analysis
Preparation in advance	10.02	0.32
Guidance before class	15.40	0.52
Classroom teaching	16.12	0.49
Review after class	15.64	0.25

### 3. Result Analysis and Discussion

Rain Classroom is developed by the school online and online education office, aiming at connecting the intelligent terminals of teachers and students. Every link of pre-class and post-class will be endowed with a brand-new experience to maximize the energy of teaching and learning, and promote teaching reform. The existence of time-limited exercises in class improves students' attention. "Understanding" buttons, bullet curtain, pre-class preview and other links help to improve students' awareness of active participation, and pre-class, after-class pushed PT and other information can enable students to learn at any time. For the teacher, all the student's learning behavior data is automatically and completely collected, which helps to quantify the student's learning effect and grasp the student's learning trajectory. "Teaching content teaching based on the pre-study data, using the Rain Classroom to push targeted questions in the teaching process, students can immediately know the answer results, teachers can answer questions in the first time. To determine which problems are error-prone, According to the answer to the question, the corresponding explanation will be given. The student uses the mobile phone scan code to log in to the Rain Classroom to answer the questions as shown in Figure 1.



Fig.1. Students use mobile phone scanner to log in to Rain Classroom to answer questions

With the development of hybrid teaching, different learning management systems have emerged, and related research has entered a new stage. It should be pointed out. From traditional face-to-face teaching mode to mixed teaching mode, although obvious teaching effect has been achieved, mixed teaching does not have the same promotion effect for all students. "Rain Classroom" has brought

unprecedented changes to students' learning, mainly reflected in: First, it strengthens students' learning experience, stimulates their enthusiasm for learning, and improves learning efficiency. Secondly, it broadens students' learning time and space, and provides guarantee for learning at anytime and anywhere. Third, change to ensure the training content, process and teachers' all-round supervision, so as to complete the training task with quality and quantity. The Rain Classroom compensates for the lack of data in the teaching management process. The Rain Classroom can count the number of students' pre-study and list, the student's preview effect, the problems students encounter during the preview process, and the number of people who do not understand each knowledge point in the class. Pass the statistics of these statistics. Teachers can more intuitively grasp the learning situation of students, and can also use these data to urge students to learn. The development trend of the hybrid teaching mode of the Rain Classroom is shown in Figure 2.

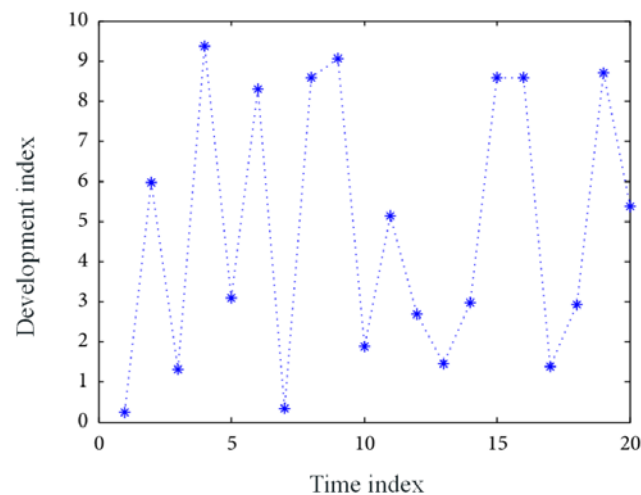


Fig.2. Development Trend of Hybrid Teaching Model of Rain Classroom

In terms of learning environment, teachers create virtual classes through Rain Classroom to share pre-class preview and after-class review materials with MOOC videos, exercises and voice related to the course. In order to grasp the students' preview and review situation in real time, students learn the information pushed in Rain Classroom anytime and anywhere, and feedback the problems to teachers in real time. In the aspect of autonomous learning strategy, the teacher's courseware in the classroom will be synchronized to the students' mobile phone page by page through the Rain Classroom, and the students can be marked as “not knowing” or “collecting”. It can be used for reviewing after class, and the data can also be displayed synchronously on the teacher's mobile phone. Learn relevant knowledge. The specific requirements are: in the open teaching discussion area, the students who have already prepared and mastered the knowledge to attend the subroutine format and programming method. Review the learning content in the micro-course. Then test the mastery of the subroutine online. Improve students' practical ability while improving the quality of students' biological courses. With the rapid development of society, multimedia technology has also developed rapidly. In the process of conducting biological experiment teaching. For some difficult experiments, teachers can use multimedia equipment to demonstrate the process and details of the experiment, to develop students' observation ability and to meet the learning needs of students.

#### 4. Conclusion

This paper explores the hybrid teaching mode in Rain Classroom As a mixed teaching mode, Rain Classroom can promote the teaching reform of Higher Vocational Colleges on the one hand. On the other hand, it is also conducive to improving the teaching effect of Higher Vocational classroom. Enhance interest in learning; after class, students submit learning experience and complete after-class tasks. Teachers check students' learning situation according to their learning experience and homework submitted by students, write teaching design and memorandum, and improve teaching skills. Students can try to avoid using mobile phones for entertainment games,

and for learning, it will effectively improve the teaching effect and improve learning efficiency. Make the “teaching” and “learning” between teachers and students form a real interaction. We must conform to the challenges of the information age and actively engage in the practice and exploration of information-based teaching with a passionate open mind. Therefore, the combination of Rain Classroom and teacher teaching is a combination of teaching rules. It is a key method to develop students' lifelong learning ability. The application of the Rain Classroom makes the classroom teaching more efficient, targeted and malleable.

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