

Research on the Blended Teaching Model Based on "Internet +"

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Abstract: In order to break the industry barriers of traditional teaching mode, stimulate the extensibility of teaching space, and enrich teaching resources and means, the traditional teaching mode and the "Internet +" teaching mode are organically integrated to form a new hybrid teaching mode. The blended teaching model can effectively combine the affinity and interactive effect of the traditional teaching model, and can also draw on the teaching resources on the Internet, thus expanding the traditional teaching classroom and forming a new classroom style with teachers at the helm and students' online learning as a supplement. However, online education cannot completely replace offline education, nor can offline education abandon online education. Therefore, promoting the research on the "Internet +" hybrid teaching model is an inevitable choice to promote the sharing of educational resources and comprehensively improve the quality of education.

1. Background and significance

Based on the "Internet +" hybrid teaching is the combination of traditional teaching and online teaching teaching mode, actively in our country under the background of "Internet +" education, in the curriculum based on "Internet +" hybrid teaching mode, to improve the teaching effect of curriculum, cultivate innovative engineering science and technology talents, deepen the reform of engineering education and promote the construction and development of curriculum has an important role. Hybrid teaching (blended learning) based on "Internet +" is a teaching model combining traditional teaching with online teaching.^[1] Is the product of the integration of the Internet and education. This teaching mode can greatly extend the spatial dimension of teaching, activate teaching resources, enrich teaching means, and provide more possibilities of teaching and learning for teachers and students. It can be seen that under the background of "Internet +" education, exploring and studying the mixed teaching mode based on "Internet +" is of great significance to deepening the reform of engineering education and promoting the construction and development of new engineering^[2].

Traditional teaching is a teaching mode in the form of teachers 'teaching and students' listening. Its advantage lies in that teachers and students can communicate face to face immediately, whether in emotional communication or knowledge transmission, which is not replaced by other teaching modes. However, the occlusion of traditional teaching resources, too uniform teaching, low efficiency, boring learning atmosphere and other shortcomings are also obvious. Many teaching problems existing in traditional teaching seem to be found to alleviate after encountering the

Internet. The efficient transmission of the Internet, open connectivity, and breaking the boundary of time and space are the state that traditional teaching is struggling to pursue^[3].

In the context of "Internet +", online teaching is becoming more and more convenient to acquire knowledge, and is rich in teaching resources. Students use online open courses to expand their horizons, and are not restricted by objective factors such as time and space, making education more personalized and humanized. However, as a new thing, the Internet and its combination with education often fail to reach people's expected level. Due to the internal and external limitations of many factors, online teaching has many problems, such as "lack of teacher on-site guidance and constraints, easy to detour", "network separation from the teaching process", "time-time separation between teachers and students, insufficient emotional communication". These problems existing in online teaching are one of the main reasons to limit its popularization and application.

Analysis of the advantages and disadvantages of traditional teaching mode and online teaching mode, concluded that the construction based on "Internet +" hybrid teaching mode can fundamentally solve the problem, however, at present a small number of colleges and universities implementation of hybrid teaching mode also only exists in the combination of appearance, just the traditional teaching directly moved to the Internet online teaching, this is the combination of narrow. The process of education is a dynamic process of combining knowledge dissemination and knowledge learning. Both of them are indispensable. Effective network learning should be based on certain teaching strategies, rather than just the transmission of information. In order to solve the above problems, a hybrid teaching mode combining online and offline is proposed.

2. Research content

The key points of the 14th Five-Year Plan of the education industry point out that: explore the new mode of "Internet +" education development, vigorously develop smart education, comprehensively improve the information literacy of teachers and students, and create a good technical environment for accelerating the modernization of education and building a strong education country. Through the study of the traditional teaching mode and online teaching mode, build a set of adapt to higher vocational students hybrid teaching mode, the teaching mode can be combined with the advantages of traditional offline teaching and Internet online teaching mode, avoid the insufficiency of the two teaching mode, form a set of online integrated hybrid teaching mode.

The pre-class stage is the preparation stage for the mixed teaching. In the pre-class stage, teachers should integrate the relevant teaching resources on the Internet. If the relevant courses of the school are supported by the corresponding network platform, teachers can record micro-class videos on the learning platform according to the needs of students' learning, and upload the relevant learning materials to the learning platform together for students to preview before class. If the school does not provide online platform support for relevant courses, teachers can recommend relevant online education platforms to students, such as netease Open Course and China University MOOC, according to their learning needs. These online education platforms cover most of the courses and can provide quality learning resources for students' autonomous learning. The main task of students in the pre-class stage is to complete the online autonomous learning, that is, according to the tasks assigned by the teacher, they can find the relevant learning resources, watch the learning videos, complete the corresponding autonomous learning tasks and online test content, and feedback the relevant test results and difficult problems to the teacher. During this period, between students and students, between students and teachers can use the teaching platform or QQ group, WeChat group and other instant communication tools to discuss related issues and share learning experience, so as to achieve a good pre-class preview effect. The pre-class preparation

stage is shown in Figure 1.

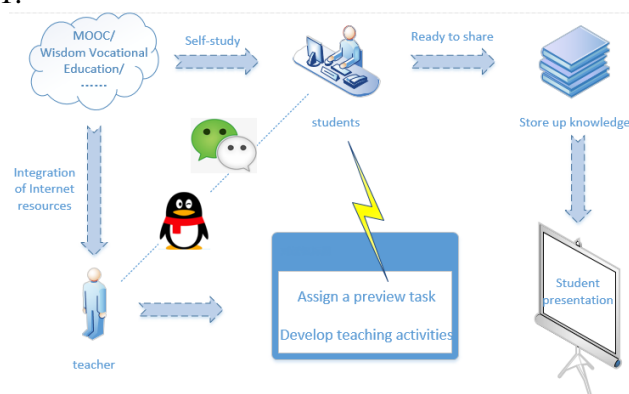


Figure 1 Pre-class preparation stage

In the class stage, the offline teaching mode is mainly adopted, that is, the traditional face-to-face teaching method. In this stage of teaching, teachers summarize and sublimate the relevant knowledge content based on the students who have completed the pre-class independent learning, and focus on the analysis, consolidation and application and evaluation of the key and difficult points in teaching. At this stage, teachers can organize students to report what they have learned according to the early learning situation, and discuss and communicate with students on some key or difficult problems, and students can gain knowledge and progress in the process of independent learning, preparing materials and mutual communication, so as to realize the transformation from passive learning to active learning. At this stage, both teachers and students need to participate in the process of information transmission, interaction and feedback, and reflect the people-oriented teaching concept. Because the students in the class preparation stage has according to the requirements of the teaching knowledge of autonomous learning, and the difficult feedback to the teachers, therefore, teachers at this stage will focus on solving the problems of students in autonomous learning stage, to make the teaching more targeted, changed the traditional face-to-face teaching mostly rely on the teacher of the teaching experience. The face-to-face teaching stage in the class is shown in Figure 2.

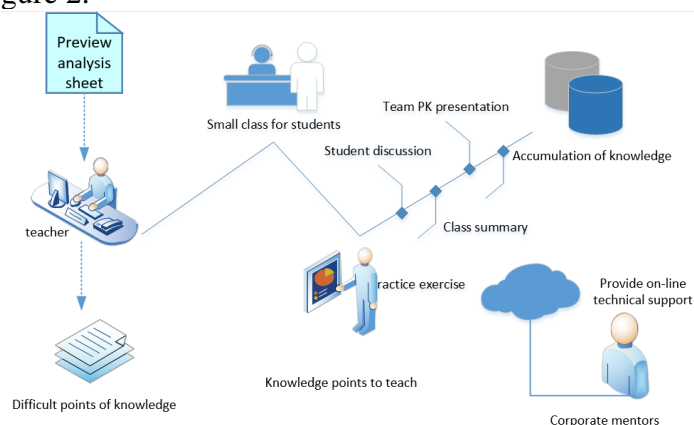


Figure 2 Face-to-face teaching stage in the class

In the after-class stage, the teacher arranges the corresponding exercises according to the students' learning and mastery of the knowledge content for the students to practice after class, so as to consolidate the students' knowledge. At this stage, students can be based on the Internet platform or through the instant communication tools, their problems in the process of finishing homework and confused feedback to teachers, teachers see the message, organize live online teaching, can give

students reply in the first time, so as to ensure that students get better learning experience and learning effect. Teachers can group the students according to their learning situation and ask them to work together to complete the relevant learning tasks. In the process of group cooperation, the group members can learn from each other, communicate with each other, and consolidate the content of learning by completing practical projects, and finally achieve the purpose of truly mastering the knowledge learned and applying what they have learned. Figure 3: Schematic diagram of the after-school tutoring stage.

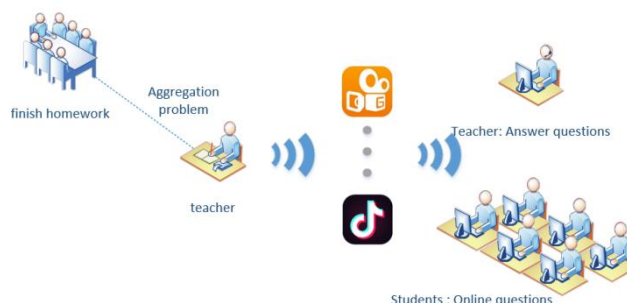


Figure 3 After-school tutoring stage

3. Ideas and methods

This research focuses on the guiding ideology of Internet +, takes cultivating students' ability as the core goal, takes the action route of online and offline dual-wheel drive, and integrates traditional teaching with Internet teaching, so that students can broaden their horizons and clear the blind areas of knowledge on the basis of the traditional education without face-to-face teaching. At the same time, in the class, through the way of live broadcast, you can introduce the enterprise refers to lead^[4]Students can ask questions online about the employment needs of enterprises or industry needs, and be prepared for employment and study oriented.

In order to enhance students' initiative in learning, it is imperative to change the traditional teaching, and students should learn actively and individually under the guidance of teachers, which naturally becomes the core task of teaching reform. Among them, independent inquiry, cooperation and communication and practical operation are all important teaching modes, and introducing new technologies and new engineering into teaching methods and steps is the problem that we need to discuss, and truly guide students to have substantial changes in their learning methods. It needs not only theoretical discussion, but also to change the teaching mode to provide reference experience for other curriculum reform.

3.1 Research on the hybrid teaching mode of "Internet +" in theory

Through the literature research method, understand the scope, function and effect of the mixed teaching mode, analyze the difference between traditional teaching and it, understand the problems of the existing teaching mode, and propose the goal, steps and expected effect of changing the teaching mode.

3.2 Conduct the experimental study of the mixed teaching mode

Select the experimental classes and the experimental courses to carry out the research on the hybrid teaching mode based on "Internet +", formulate the teaching scheme based on the new teaching mode, and design the classroom links. Teachers no longer adopt indoctrination education method, students are no longer passive listening; but teachers are more like a "director", become the

organizer, guide and motivation, in classroom teaching, students have sufficient time and choice; study the mixed teaching mode, stimulate students' interest in the curriculum, driven by interest, students can more actively complete learning tasks and expand learning vision.

3.3 Conduct experimental research on introducing teaching resources in the Internet

With the continuous improvement of Internet resources, a lot of excellent teaching resources have been accumulated.^[5] For example: MOOC University, love course, intelligent podcast teaching auxiliary platform, smart vocational education and a number of websites with rich teaching resources. Through the classroom design, an appropriate platform is selected to supplement the teaching methods. Through the study of some micro courses, we can make up for the shortage of hardware resources, so that students have the feeling of face to face teaching in person, a wide variety of network resources, a huge number, students can absorb nutrients in the tide of Internet knowledge.

3.4 Research on adding new media teaching mode

At present, the most popular live broadcasting industry is in hot progress. The wide application of new media software such as TikTok, Kuaishou and Huoshan Video allows teachers to answer questions through after-class live broadcasting. The addition of new media means can solve the limitation of teaching time and teaching place, move the classroom into life, and realize the three periods of teaching before, during and after class.

4. Innovation

4.1 Truly realize the student-centered flipped teaching

Before class, students according to the preview, they want to complete the pre-class preview, through the Internet platform teaching resources can simply understand the classroom tasks, do you know it well? For students who are being warned or those who want extra points, Class presentation materials can be prepared, Organize out the extracurricular knowledge learned before class, Create a small class for students to tell their stories; once the class students receiving class tasks, thinking and inquiry, answering questions, discussing and sharing, interactive games, practical exercises, summary and mutual evaluation, class quiz and other activities accounted for more than half of the time, Teacher teaching course time is correspondingly reduced, Realize the students' theme status; After class, students complete homework, live broadcast communication, online q & A, corporate mentor in-class guidance, etc., Promote students to achieve their learning goals.

4.2 It truly realizes the classroom teaching with cultivating students' ability as the core

Cultivate students' competitiveness. By dividing students into several teams to promote the teamwork ability, they can complement each other, encourage each other and enhance their interest in learning, cultivate the awareness of competition, improve the collective ability of the team, honor and responsibility, and achieve the goal of cultivating students' comprehensive ability.

4.3 Keep pace with The Times and realize new media teaching

By breaking through the traditional teaching mode and increasing the introduction of Internet teaching resources, students can independently choose the knowledge they are interested in for learning outside the classroom, or consult with teachers through network broadcast and other ways.

Teachers can guide teaching in real time and perfectly overcome the limitation of time and space.

4.4 To train enterprise target talents

In the process of course implementation, through live way to join enterprise mentor to complete common teaching task, enterprise mentor can be for the current enterprise situation, the demand for talent, and possible problems in the work, in teaching demand target, targeted learning, higher effective, the combination of theory and practice is better, through the enterprise mentor to join, can master the latest employment and industry dynamics, students can stand on the shoulders of giants, less many detours, to avoid some problems, after employment role to provide effective teaching background.

4.5 Break the fractional classroom model

Every student is a unique individual, and each person's shining points are different, so it is unscientific to measure a student's learning only based on the paper and pencil test results, therefore, we should pay attention to the diversification of student assessment and evaluation. Through the diversified assessment and evaluation system of peacetime + practice + activities + mid-term + final, the boundary between "good students" and "poor students" is broken, and there is no grade distinction in the class, so that each student is provided with an equal class, stimulate students' enthusiasm for learning, and protect their psychology of growth and differentiation.

4.6 Implement the teaching assistance and auxiliary mechanism

Help the students who are not ideal^[6] and strive not to leave every student behind. For students who need help, it is divided into three levels: level warning, two, level warning, three level warning. Help auxiliary method for the situation of primary early warning, students can through 10 minutes of classroom display to remedy, display content can be the Internet related to this course knowledge development, rich content, not only can improve students' expression ability and summarize knowledge ability, but also can broaden horizons for other students, fill the knowledge blind area. In view of the situation of second-level early warning, under the premise of using the above auxiliary measures, it is necessary to match a group of small assistants, select the small assistants who can help the students, and implement a pair of auxiliary in the assessment dimension of the need to remedy, which can effectively improve the efficiency of helping and achieve the improvement of comprehensive ability. In view of the situation of the three level early warning, in the second level early warning mechanism, teachers intervene to assist the complete auxiliary.

5. Expected results

The research of hybrid teaching mode based on "Internet +" can transform teaching results, and be free of subject restrictions, and can be copied to different disciplines to realize the reform and development of education and realize the transformation of teaching mode.

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