Research on the Mode of Online Flipped Classroom Teaching

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Abstract: With the development of Internet +, education technology informational has become an inevitable trend. This paper mainly discusses the significance, characteristics and future development strategy of introducing flipped classroom teaching mode in online teaching from the aspects of teaching link design and teaching concept.

1. Introduction

In the background of Internet +, information technology is constantly updated and upgraded, the way of knowledge transmission and acquisition are constantly changing, and the way and concept of education are also constantly changing. After the outbreak, promote more schools to carry out online teaching mode, promote the progress of the teaching network, in order to adapt to the actual needs of online teaching, through modern information technology and education teaching depth fusion reshape classroom teaching form, improve the teaching level and talent training quality, flipped classroom as an innovative education and teaching mode, gradually widely used in various stages of teaching. Flipped classroom is also known as inverted classroom or inverted classroom, the teaching process is internalized by students' first exposure to new content after class, and then more difficult knowledge in class through strategies such as problem solving, discussion or debate [1]. The "recording teaching + live interaction" mode is an online version of the flipped classroom practice. Teachers will first help students to complete the early acquisition of knowledge through pr-class video, while the class time will mainly deepen students' understanding of knowledge and cultivate advanced ability through interaction. The traditional flipped classroom is a mixture of online asynchronous and offline synchronous teaching. This mode replaces the offline face-to-face teaching link with online live broadcast, and becomes a mixture of online asynchronous and online synchronous teaching [2]. Flipped classroom can effectively stimulate students 'interest in independent learning, and cultivate students' habit of positive thinking and self-solving scientific problems [3]. To explore the online flipped classroom teaching mode, to enrich the theoretical and practical basis of combining online classroom and online teaching to a certain extent, is conducive to improving the teaching level, and further promoting the replacement and upgrading of educational informational.

2. The Current Situation and Problems of Online Teaching

Online teaching is the product of the development in the science and technology era [4]. Since the information technology revolution, people's pace of life has been accelerating. The high time cost has prevented the traditional face-to-face teaching mode from fully meeting people's demand for knowledge, thus promoting the birth and development of new online curriculum resources such as MOOC and micro-courses, as well as the rise of online teaching mode [5]. The so-called online teaching refers to the teaching of teachers and students in their own real space. It is the third form of —— online live class in semi-virtual "online class" and completely virtual. It is a quasi-virtual form [6]. The outbreak of COVID-19 in 2020 accelerated the pace of online teaching development, prompting schools at all levels to passively carry out online teaching mode and ensure "suspension and suspension", which also made online teaching face huge challenges.

Due to the limitation of technical conditions, online teaching will have live broadcast faults such as network lag and delay, which affects the experience of teachers' lectures and students' lectures. Due to the lack of face to face authenticity and teacher's sense of supervision, students' enthusiasm, participation, and vulnerable to interference with other things. Long-term use of mobile phones and computers is not conducive to students 'physical and mental health. Therefore, how to stimulate the internal motivation of students to learn, ensure the quality of students' listening to lectures, and strengthen the teaching effect has become a key problem to be solved in online teaching.

3. The Significance of Introducing Online Teaching Into a Flipped Classroom

Compared with offline classrooms, the teaching environment, teaching space and teaching platform in online teaching have undergone great changes. Online teaching is not a simple copy of offline teaching, but according to the characteristics of the network, give full play to the advantages of the Internet, and explore the online teaching mode suitable for students' learning needs [7]. However, many online teaching does not give full play to the advantages of rich online teaching resources and breaking through time and space constraints, but simply copy the traditional teaching mode. Therefore, in order to ensure the efficient, stable and orderly online teaching mode, we need to change the teaching concept and introduce more advanced teaching methods. The emerging teaching model of flipped classroom is called the "disruptive innovation" of the traditional teaching model, which truly realizes the "student-centered" teaching concept [8]. The key to flipping classes is "flipping", where students and teachers swap roles to transform the originally traditional "indoctrination" and "cramming" learning classes into "autonomous" and "communicative" "seminars". Teachers prepare rich teaching materials before class, the class needs to understand knowledge to the students, students through multimedia technology to realize the class knowledge preview, based on their subjective understanding and psychological cognition, internalize the heart, with "views" and "problem" online classroom "share" to the teacher and other students, this good teacher-student interaction can play a role of teaching phase, to promote the education of information reform is of important significance.

4. Features of the Online-Flipped Classroom

Flipped classroom is one of the teaching methods that has attracted much attention in recent years. It is a new teaching method developed based on multimedia technology. Online teaching is also a teaching mode developed based on the background of the Internet and the influence of the epidemic. The overall satisfaction, learning effect, completion and acceptance of the two are both high.

4.1 Make Full use of Teaching Resources, and Teachers and Students Share Massive Data

Cui Yonghua believes that teaching resources refer to "all the material conditions, natural conditions and social conditions that can be used for education and teaching. Teaching media is one of the important components of teaching resources ". Flipped classroom teaching mode in the pre-class stage, students in the teacher to share audio and video data and auxiliary graphic information under the guidance of independent learning, form a preliminary understanding of the teaching content, can also be through the Internet new media and other new technology, adopt multi-channel learning methods, get more learning materials, timely discussion and communication between each other .In the course stage, you can also share your content before class with teachers and other students to form a benign interactive relationship and long teaching. After class, students can complete their homework through the online platform, and have real-time discussions with teachers and students through the online communication platform, with timely feedback, which can better expand the learning content and expand the learning scope.

The learning methods that mobilize various sensory participation can always make the learners find the most suitable one for their own learning, so as to attract and maintain the learners' interest in learning.

4.2 Break through the time and space restrictions and extend the teaching time

Using the flipped classroom mode, students can choose any time and place to learn freely before class. After teachers upload learning materials, students can learn anytime and anywhere through mobile phones and other equipment, no longer limited to classroom teaching time; during online teaching, they can also record real-time online teaching video, so that they can watch the video to learn again after class, strengthen the understanding and memory of knowledge points, and extend the teaching time. The traditional classroom is confined to an ordinary classroom, and the neat desks and chairs and the three-foot platform bring a layer of constant depression to the students. Online teaching classroom allows students to choose a comfortable and relaxed environment to enjoy the "classroom", to help students mobilize multiple interactive ability, so that teachers and students to establish a more friendly and harmonious learning atmosphere.

4.3 Teachers and Students Should Change Their Roles and Change Their Teaching Concepts

The traditional teaching classroom is to take teachers as the leading role, through PPT, blackboard writing and other course ware to teach knowledge points to students, teachers occupy most of the classroom time. What the flipped classroom flipped is the two basic teaching processes of student knowledge impart and knowledge internalization, rather than the simple form flipping, changing the roles of teachers and students, student-centered. Teachers are the main body of online live teaching, the promoter of students' online learning, and students become the active undertaker of learning. In the classroom, teachers adjust the teaching methods, and play the leading role of students in the classroom through group discussion, keynote speech, mutual comments, online summary and other ways. In addition, the chat box in the online classroom allows students to give feedback in real time to achieve good interaction between teachers and students. Teachers can adjust the teaching content according to the students' early learning situation, and explain the important and difficult content in a timely and effective manner. The extension of classroom activities time gives teachers the space to give full play to their own teaching characteristics. Teachers need no longer have to be limited to the limitation of traditional teaching time, but can organize various learning activities according to their own understanding of learning, so that students can complete the construction of knowledge[8]. As Aaron Summs (Aaron Sams), a teacher at Woodland Park High School, said, "The flipped

classroom increases greater responsibility through the role of teachers and students. It requires responsible, caring and professional educators with design [9].

5. Problems and Development Strategies of Flipped Classroom Teaching Mode Online

The flipped classroom application to online teaching accelerates the development of online teaching to some extent, learning anytime, anywhere, rich resources and teamwork ability, but also lack of teacher innovation, rough audio and video materials; students are not careful, inattention, skipping. How to ensure the quality of online flipped classroom teaching and optimize the teaching effect is an important topic to be solved at present.

5.1 Improve Teachers' Quality and Enhance Their Informational Ability of Education Technology

In the current online teaching activities, teachers widely use the online teaching software, and the flipped classroom model puts forward new requirements for teachers' information ability. Teachers not only need to have the Internet thinking, but also need to master various educational technologies. In the face of the continuous upgrading of the Internet technology, teachers should take the initiative to update their knowledge structure, improve their digital literacy, editing pictures, videos and web pages will become the basic teaching skills, and solving the network, software and hardware problems will become a required skill [10]. UNESCO (2015) noted that "digital technology is changing human activities, from daily life to international relations, from work to leisure, and is redefining the many aspects of private and public life." Report after the analysis of technology development for education, reached a conclusion," digital technology will not replace teachers ", but also pointed out that" considering the potential of information and communication technology, teachers should now become a guide, guide students to expand the knowledge base to achieve development and progress (UNESCO, 2015) ".

5.2 Improve the Classroom Teaching Design and Create Good Learning Atmosphere

Online learning is a "classroom" separated from time and space. Students and teachers are separated across the screen, and cannot truly "perceive" each other, which inevitably produces a sense of alienation. Teachers can make full use of the communication software to strengthen the interaction of teachers and students, guide the direction of students to discuss in time, meet the learning needs of students from different degrees, adjust the sweet atmosphere, control the rhythm, and ensure the smooth operation of the flipped classroom.

The flipped classroom emphasizes the autonomy of students' learning, which determines the per-class stage of students, and needs to do full preview and preparation work. Teachers may make audio and video software to warm up students for the course, so that students can understand the knowledge points of the course before class. In classroom teaching activities, some teachers adopt the "three-section" teaching method, the basic method is: three hours are divided into three teaching periods, set about 35 minutes for a teaching period, set about 7 minutes in the middle of the book knowledge development, software interactive panel communication, learning experience sharing, so that the module of teachers and students interaction, relax the brain. The three-section division makes the classroom content cannot be fully taught, so it is necessary to have a choice of the classroom teaching content, highlight the key points and difficulties, and for the basic concepts and knowledge expansion content of students' after-school learning [11]. In after-class feedback, teachers can use the teaching software platform for online discussion and release homework, set the task time point, guide and urge students to review after class, students can in the platform software

reply, comment on each other, teachers can timely check and approval, actively participate in after-class discussion and communication, so as to form a good learning atmosphere.

5.3 Strengthen the Supervision and Management Mechanism and Promote the Virtuous Cycle Development of Online Teaching

Due to the lack of good supervision and management mechanism, online teaching leads to the "water class", "skip class", "brush class" and other phenomena frequently.

Supervision is conducive to urging teachers and students to take the live teaching work seriously and conducive to improving the quality of live teaching in multiple directions [12]. Flip the online teaching under the classroom improves students 'participation and turns students from forced learning to active learning, so as to improve students' inertia and improve student attendance. The punching in task mechanism of all kinds of teaching software also encourages students to give timely feedback after class to further promote students' in-depth study.

6. Conclusion

To sum up, the arrival of the epidemic has accelerated the development of online live broadcast teaching, and has also triggered more educators and scholars to think about the teaching mode in the background of the Internet. Will flip classroom and online teaching these two new teaching mode, is a kind of innovation, but for teachers and students is a comprehensive challenge, in the development of education technology informational, how to foster strengths and circumvent weaknesses, make this innovation model better in practice, educators provide more guidance, give students better guidance, still need us to constantly explore and summarize.

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