

Research on the Application of Hybrid Teaching Mode based on Network Teaching Platform in the Teaching of “3D Digital Basis”

Qi Deng¹, Nannan Yang²

¹. Jiangxi University, Ganzhou, 341000, China

². Cheongju University, Cheongju, 28453, South Korea

Abstract. With the development of information technology teaching means, based on the network teaching platform of hybrid teaching mode in higher education teaching gradually thorough, the application of this kind of education mode by supporting students online autonomous learning, teachers offline mass tutorship forms, gradually become more and more application and exploration of colleges and universities, but the specific implementation is in course of time use. Taking the course "3D Digital Foundation" as an example, this paper discusses the concept, characteristics, current situation and specific course process design of hybrid teaching, and analyzes the feasibility and necessity of the realization of hybrid teaching mode from the teaching objectives and teaching content of the course "3D Digital Foundation". It is hoped to provide reference and help for the teaching of 3d digital production courses related to design major.

Keywords: Network Teaching Platform; Mixed Teaching Mode; 3D Course; Application Research on.

1. Introduction

With the in-depth application of modern information technology in the field of education, online education has developed rapidly, and many popular online teaching platforms have emerged, such as Super Star Fanya, Tencent Classroom, Chinese University MOOC, NetEase Cloud Classroom, Hujiang online school, etc. These platforms have injected fresh vitality into the education industry. Due to the increasing demand for learners' participation and the deepening understanding of distance learning in the network environment, the network teaching platform is also constantly upgrading on the basis of the original teaching system, from on-demand network teaching platform to interactive network teaching platform. From "teacher-centered" teaching model of the teaching content of one-way input to the extensive use of instant communication technology to carry out online and offline learning support services, formed a "student-centered" teaching model of information input and output of multiple channels, namely a mixture of face-to-face classroom teaching and network auxiliary teaching, so that the complementary advantages of the two, in order to obtain the best learning effect.

2. Overview of Mixed Teaching Mode

Blended teaching is an "online" + "offline" teaching that combines the advantages of online and traditional teaching. Through the organic combination of the two teaching organization forms, learners' learning can be guided from shallow to deep into deep learning [1]. It has become a popular teaching mode with its advantages of integrating traditional teaching and network information teaching.

Hybrid online self-study and teachers teaching can be understood as the students offline learning fusion education mechanism, the subject of the hybrid teaching mode based on network platform based on information technology as the leading factor, the teaching content is presented to students in the form of dynamic, this kind of teaching mode to develop not only emphasize the "dominance of teachers, students' self-study", Moreover, we should attach importance to the emotional interaction and ideological exchange formed by face-to-face communication between teachers and students in

the traditional teaching mode. In the process of teaching implementation, teachers need to give full play to their leading role, pay attention to the "balance relationship" between teaching and learning, and try to give full play to the application advantages of offline and online teaching modes. In order to effectively deepen the teaching effect, help students to master the knowledge content more flexibly. Hybrid teaching mode emphasizes that offline and online teaching share the same teaching objectives. The mixing of "online" and "offline" teaching is not a simple $1+1=2$, nor can it be achieved overnight, but should be the expansion and complement of each other and complement each other. Therefore, teachers should pay attention to the convenience of rational use of information technology to integrate educational resources and provide more abundant forms of knowledge presentation to deepen students' understanding.

3. The Application Status of Mixed Teaching Mode in Course Teaching under the Network Teaching Platform

With the development of online education, the research on blended teaching gradually develops. From the analysis of the results of domestic and foreign literature review, there are few research results on the implementation of blended teaching at the institutional level. In 2005, Penn State University in the United States and Griffith University in Australia began to systematically implement the hybrid teaching reform. Domestic research and exploration to its began in 2003 hogg professor of blended learning concept explanation, but early due to its understanding is relatively chaos, theory and practice about this kind of study is less, until after 2013, with "Internet +" is put forward and the research thorough, there have been some education workers and students endorsed products online teaching platform, The popularity of "Internet + education" has made all sectors of society refocus on the blended teaching mode, and basically reached a consensus that the blended teaching mode based on the network teaching platform will become the "new normal" of future education[2]. Siemens pointed out in the research report "Embracing the Digital University: An Overview of Distance, Hybrid and Online Learning" that "in our literature search, we found only one article that systematically summarized the implementation of hybrid teaching at the institutional level". At the same time, some scholars pointed out the gap in the current research: "First of all, the research on the role of teachers in mixed learning is not enough. Due to the lack of information on the policies and implementation of teacher training and university mixed learning, research on the views of teachers and institutions is also insufficient[3]." There are not many colleges and universities in China that carry out the reform of hybrid teaching mode, and the successful experience is less. Therefore, how to construct an effective reform and promotion strategy of hybrid teaching mode in colleges and universities is an urgent problem to be solved.

Hybrid teaching mode of the traditional face-to-face learning advantages and network teaching platform combines the advantages of online learning, especially in the present COVID - 19 epidemic prevention and control of the background, the offline face-to-face is limited by the part, the hybrid teaching mode is particularly important, has become a hot topic in current education reform and education innovation. In my teaching practice, I found that the single offline or online teaching mode compared with the mixed teaching mode is too single form, there are obvious deficiencies. Such as in the offline of basic course for the 3 d digital teaching, the traditional teaching approach is to do so, the students first to explain the theoretical knowledge to operate the demonstration, and then solid exercise guidance to students in the classroom, because the classroom speaking time is very short, the students to sufficient practice, and can be directed to the students is less, so can't really grasp the classroom knowledge, Learning efficiency is generally not high. Online teaching mode breaks through the time-space boundary, and its playback function makes learning more efficient. When students don't understand in the classroom online, they can watch the teacher's recorded video repeatedly, which is of great benefit to students to learn and understand knowledge points. Last semester of 2020, as a result of the epidemic situation grim, the change of the school teaching work has been done, for a period of online teaching, I in order to better improve the quality of teaching, the

teaching of basic course for the 3D digital is in "recorded on + questionnaire to answer live set + writing training", and other forms to carry out online teaching, the combination of In order to meet the teaching plan, video teaching can be detailed and in-depth, and at the same time, through the data monitoring of MOOC network, students' learning progress can be mastered. However, I am still deeply aware of the shortcomings of the single online teaching mode, such as the difficulty in controlling students' participation in class. Because the students' learning status can not be accurately viewed in real time, even if a variety of interactive ways such as live answering questions and setting up questionnaires can not completely eliminate the phenomenon of some students playing mobile phone games and absentminding. In addition, for a small number of introverted students, they will not take the initiative to seek guidance from teachers, it is difficult to achieve timely guidance.

4. The Concrete Application of Mixed Teaching Mode under the Network Teaching Platform in the Teaching of 3d Digital Basis

The course "3D Digital Foundation" is a professional core basic course for students majoring in digital media art of our university, which lays a foundation for other professional courses. This course has a total of 80 offline hours, 40 theoretical hours and 40 practical hours, and the theoretical hours are equivalent to the practical hours. The online courses are reserved for students to learn before and after class, and the online teaching platform is MOOC of Chinese universities. The course objectives not only require students to master theoretical knowledge, but also improve their practical ability. Through the study of this course, students can understand the knowledge points of 3d digital basis, such as course summary, 3D basic modeling, 3D basic material, 3D basic lighting and 3D basic animation. Familiar with the process and production method of 3D digital software, and can make 3d basic works with artistic aesthetics.

In the past, the teaching of "3D Digital Foundation" adopted the traditional offline teaching method. For this practical course, it usually has the shortcomings of incomplete, not thorough and not deep. As there are many practical operations, it is difficult for students to fully remember and understand a lecture, so there are many problems in after-class practice, leading to students' low learning enthusiasm. Moreover, in the process of learning, each student accepts the learning content of different degrees, different learning ability, understanding and thinking of the content are not the same, so it is impossible for students of different levels to achieve the same learning effect in a class. Without change there can be no thinking, and without thinking there can be no progress[4]. Therefore, I try to introduce the network teaching platform and promote the implementation of hybrid teaching mode in the teaching of this course. The offline class aims at laying a foundation, focusing on theoretical narration and practical guidance. The construction of extracurricular online courses is based on MOOC of Chinese universities, with data mastery in the whole process, focusing on review and overcoming difficult knowledge points. Specific applications are as follows:

(1) Online preparation before and after class on the network platform. The blended teaching mode breaks the original teaching mode and teaching idea and makes classroom teaching enter a new stage of development. Before online teaching, in order to improve students' interest in learning, knowledge points are listed according to chapter contents and unit learning guidance is designed so that students can make clear learning objectives and key and difficult points of teaching content in the process of online learning, and the key and difficult points are recorded into videos, and the length of each video is no more than 10 minutes. Students can pause or play the video repeatedly according to their own situation, thus reducing the difficulty, which can greatly meet the learning needs of students at different levels.

(2) In-classroom face-to-face inspection guidance. Offline learning mainly allows students to learn the content of this chapter deeply through teaching and explanation, introduces the content based on the pilot course content of online learning and relevant knowledge points cited, and gives in-depth explanation to the basic and key content. In the offline teaching in the classroom, we will try our best to collect the problems students encounter in online learning, give timely guidance to solve them, and

explain the knowledge students have learned online, so as to deepen their understanding of knowledge points and improve the effect of online independent learning after class. In addition, since there are two sections in the blended teaching mode, the scoring standard of the blended teaching of 3d Digital Foundation is reformulated, as shown in Table 1.

Table 1. Scoring standard of mixed teaching of 3D Digital Foundation

"3d Digital Basis" mixed teaching scoring standards	
I. Grading standards for online classes	Ii. Offline classroom grading standards
Daily score (10% of the total score): Mainly inspect the course participation, including the completion of video viewing, daily homework submitted and participation in discussion.	Course Title: Fundamentals of 3D Numbers Credits: 5 credits Total credits: 80 credits Lecture: 40 credit hours Laboratory: 40 credit hours Assessment method: examination Total score: normal score 30%+ experiment score 30%+ final homework score 40% Applicable major: Digital media Art
Mid-term score (30% of the total score), submit mid-term works and grade.	
Final grade (50% of the total grade): final test questions and final works.	
Forum participation (10% of total grade): Students with higher forum participation will get higher marks.	
A final score of 60 or above will lead to a certificate of conformity and 80 or above will lead to a certificate of Excellence.	

To sum up, based on the network platform of hybrid teaching model in the application of "3 d digital foundation" course practice, can overcome the problem of single line or offline teaching mode, promoted the development of teaching, make students more able to fully interpret the teaching content, spatial thinking thus forming, and cultivate the students' learning initiative and enthusiasm and creativity, In this way, students' basic theoretical knowledge and quality and ability can be improved effectively, and good teaching results can be obtained.

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