A Study on the Flipped Classroom Practice Supported by the WeChat Public Platform Based on the Blended Learning Mode

Jin-Hua DONG¹,a and Ru-Nan JIANG¹,b

¹School of Art and Design, Wuyi University, Jiangmen, Guangdong, 529020, China
a48175042@qq.com, b18227843@qq.com

Key words: Blended learning; Fragmentation; WeChat public platform; Flipped classroom

Abstract: With the rapid development of the Internet, digital technology has been integrated into all aspects of our lives. Similarly, digital technology has also constantly penetrated into the boundary and scope of traditional teaching. In this paper, the blended teaching mode supported by the WeChat public platform is explored by combining the traditional teaching and digital teaching in order to find new ways and new methods of education modes. Meanwhile, by taking the course of "Computer Aided Fashion Drawing" as an example, the flipped classroom teaching supported by the WeChat public platform is explored and practiced so as to provide a reference for other similar courses.

Introduction

With the rapid development of the Internet technology and wireless communication technology, as well as the continuous development of smart phones and other mobile terminals, people become increasingly dependent on mobile terminals in daily life. In spite of the application of the mobile terminal in learning is relatively small, it is still increasingly concerned and accepted by the people, so the blended learning mode based on the combination of traditional teaching and Internet technology has great development space. In this paper, by taking the software operation course "Computer Aided Fashion Drawing" as an example, the WeChat public platform is reasonably utilized to explore the blended learning mode, practice the flipped classroom teaching and improve the learning effect in order to make it a necessary complement to the traditional network learning platform.

Build a Blended Learning Environment and provide a Prerequisite for the Practice of the Flipped Classroom

Connotation of the blended learning

With the development of network information technology, information technology exerts a revolutionary influence on the development of education, coupled with learning methods and teaching methods are changing with each passing day, as a new learning mode, the blended learning mode comes in to being under the background of the rapid development of digital technology. Blended learning combines the advantages of traditional learning and digital or E-learning, which should not only play the leading role of teachers, but also reflect the initiative, enthusiasm and creativity of the learners as the main body of the learning process. In actual teaching, the concept of teaching and learning is not only the traditional sense of the "teaching" of teachers and "learning" of the students. Instead, it is changed from the single style, narrative style and traditional teaching mode that are dominated by teachers to the diversified teaching mode. The blended learning mode has the advantage of two learning modes by emphasizing the integration of high technology and new ideas, so it not only plays the leading role of teachers, but also emphasizes the main role of students, so that the "teaching" and "learning" have entered a new stage as a whole.

Introduction of fragmented learning

Fragmented learning is divided into two types, namely connected learning and the learning of "fixed deposit by installments". The key of the learning of fixed deposit by installments lies in
continuous and fragmented reconstruction of the same subject[2]. The design of the content is to divide the whole learning module into a number of relatively independent small modules, but there must be a certain degree of knowledge connection between these modules, and they gradually form a continuous knowledge architecture in the continuous learning[3]. Learning based on the WeChat public platform is a typical application of fragmented knowledge learning, so learners can make use of their spare time to learn through the platform. In addition, due to restrictions on the screen size of mobile terminals such as mobile phones, as well as restrictions on WeChat public platform functions and wireless network speed, knowledge points need to be miniaturized and fragmented.

Construction of a blended learning environment

The construction of a blended learning environment is based on the following objectives: First, it needs to improve the efficiency of classroom teaching by connecting inside and outside of the classroom through digital technology, and stimulate the initiative and enthusiasm of students' autonomous learning; Second, it is necessary to give full play to the advantages of traditional learning and digital learning, carry out teaching efficiently; give full play to the advantages of digital technology, such as the curriculum network platform and the WeChat public platform and mutual support and mutual supplement traditional teaching so as to solve the problem of limited class hours and too much course content; Third, it needs to break the limitation of time and space in traditional teaching, so students can learn anytime and anywhere, and then complete the task of learning in scattered and fragmented time through the digital platform. The application of information technology is always only an auxiliary means. Similarly, WeChat public platform is also a digital tool to assist and guide students to better adapt to the fragmented learning. Students are still the main bodies of the study, so it is necessary to guide students to actively participate in the teaching process, and carry out active and creative learning.

Key Issues needed to be solved in the Flipped Classroom Supported by WeChat Public Platform

Design and fabrication of micro resources

When designing the WeChat public platform to push resources, it is necessary to separate and design the learning content reasonably, integrate the learning tasks that students are interested in according to the characteristics of the blended learning mode in order to enable learners to quickly enter the learning state. The first is to reasonably design the time of resources, and fully consider the characteristics of fragmented reading. For example, the video resources released in the WeChat public platform is usually 3-5 minutes long; The second is to reasonably determine the content of the resources, including the self-study content before class, topics for in-class teaching or discussion, and the assignment after class in order to ensure the good practice of flipped classroom teaching; The third is to take into account learners with different bases in the design of micro resources, because the basis of the course learners is different, but the teaching contents and learning tasks are consistent; The fourth is to enhance the attractiveness of resources. In the process of extracurricular learning, learners will always in an “absent-minded” state and they tend to be distracted without teachers’ supervision, so it is particularly important to create novel and attractive resources.

Multimedia and the WeChat public platform's applied operating skills need to be mastered

The production of high-quality micro resources requires that producers have the ability to edit multimedia resources and operate the WeChat public platform, including recording, video editing, post production, copywriting and graphic editing, page setup, WeChat official account (subscriptions and service number) application, graphics and text push, push resource layout, etc. The operation of these items requires some professional skills.
Intelligent mobile terminal is introduced in the teaching, and students need to be properly guided.

In order to achieve efficient flipped classroom teaching, it is necessary to introduce mobile phones, tablet PCs and other smart mobile terminals in teaching. Because of the weak self-control of students, teachers should reasonably guide them, clarify the teaching objectives and tasks, and test students' extracurricular self-study in the classroom, make the standard and basis of pre-class preparation and after-class review, let the student collect feedback records according to the self-study so as to ensure that the flipped classroom can be carried out smoothly.

The problems to be solved in the Practice of the Flipped Classroom Teaching of “Computer Aided Fashion Drawing” Course

For a long time, the author’s project team has been carried on the teaching reform and practice on the course of "Computer Aided Fashion Drawing". At present, the traditional MOOC network teaching platform has been established (http://demo.ltpower.net/web/fzdnhh/). And relying on this platform, flipped classroom teaching practice is carried out and the phrased teaching effect is achieved, but with the deepening of curriculum reform, the following problems are found to be solved:

First of all, the existing resources of the original platform need to be converted to micro resources. At present, most of the network teaching platforms are based on 10-25 minute video series, and they provide students with after-school video preview and review, and then complete the classroom teaching practice. However, due to the bandwidth limitations of the campus network, it is prone to get stuck when watching the video, which is the main reason to decrease students' video learning enthusiasm. In addition, students become increasingly accustomed to using a mobile phone or a tablet computer to obtain information and knowledge, while their dependence on desktop computers is getting lower and lower. Therefore, we need to fully understand and analyze the students' life and learning habits, and accordingly design and build a corresponding learning environment.

Secondly, we need to refine the learning task in the existing network teaching platform. The established network teaching platform tends to build a complete curriculum system, including the curriculum objectives, curriculum content, teaching plans, expanding knowledge, curriculum assignment, curriculum evaluation, etc., so that learners can systematically recognize and analyze the curriculum. However, within a limited period of time, students not only need to understand the overall planning and tasks of the course, but also need to make clear small goals of the course and phased learning tasks before each class. Meanwhile, we need to make use of the students' extracurricular time to grasp the basic knowledge and then expand the knowledge.

Thirdly, it is necessary to make reasonable supplement to the existing network teaching platform. Due to the limitations of traditional network teaching platform, there are "review" and "interactive communication" modules, but teachers cannot receive and answer the students' questions in time because the network teaching platform is limited to the operation of the computer desktop. However, the computer drawing software operation is a continuous process. Once the operation is problematic or difficult, it is impossible to cross the domain to complete the rest of the painting operation. If students wait for the teacher to answer questions on the platform, it will waste a lot of time, so it cannot achieve seamless interactive communication and Q & A.

Flipped Classroom Practice based on the WeChat Public Platform

Create a blended learning environment

“Network teaching platform + WeChat public platform + synchronous self-designed teaching materials" create conditions for the blended learning environment and ensure the multi-form, multi-angle and efficient realization of the flipped classroom teaching. Through the revision of the self-designed teaching materials and the provision of the written teaching content and teaching resources, the network teaching platform provides complete video resources for students'
autonomous learning and repetition, the short video and fragmented knowledge launched by the WeChat public platform provides the basis for mobile learning, interactive discussion and curriculum promotion. Based on the established course network teaching platform, it is necessary to develop the teaching resources pushed by the WeChat public platform, make full use of the push and platform function of Wechat, carefully design each link of the blended learning mode and apply it in practice teaching.

Establish a curriculum WeChat public platform

Micro courses pushed by the WeChat public platform are carried out by taking "micro video" and "step-by-step diagram" as the main forms and resources such as text, test questions, homework assignments as a backup. Micro video is the core element of micro courses, and it needs to decompose the video data into small knowledge points according to the knowledge module and decompose micro video into 3-5 minutes of short video. By taking the WeChat subscriptions of "Computer Aided Fashion Drawing" course as an example, in the two months from January 2017 to March 19, 2017, followers have reached 644 people and the total reading amount of micro video and micro knowledge pushed by the platform has reached 6144 persons/time. Thus, it can be seen that the blended learning supported by the WeChat public platform is an important supporting condition of the current information technology in the field of education, which provides a new technological change for the development of traditional education.

The concrete practice of the flipped classroom teaching supported by WeChat public platform

Flipped classroom teaching supported by the WeChat public platform includes four aspects: Teachers' pre-class preparation, students’ preview before class, classroom teaching interaction and feedback after class. The construction of the teaching mode is divided into two stages: The first stage is that students preview the fragmented knowledge pushed by the WeChat public platform before class in order to improve the learning basis before the class, so that students have the basic operation ability of computer graphics software. The second stage is to combine the "typical case" of enterprises, and enable students to learn independently by using the teaching mode of "network platform + WeChat platform", "anytime + anywhere", "case guidance + project development" in order to achieve the consolidation and expansion of knowledge, as well as the changes of the teaching mode.

(1) Teachers' pre-class preparation. Teachers need to analyze and design the basic knowledge points (such as operation of the basic tools of the software), edit the contents that will be pushed on the WeChat's public platform in advance, including operating points of basic tools of the software, text description of the operation steps, reference pictures, works display, pre-class task arrangement, 3-5 minutes of presentation video, etc., and edit the teaching resources and push them through the WeChat public platform before the class.

(2) Students’ preview before class. Students should consciously learn the basic operation content, and complete the pre-class exercises according to the requirements. Common problems and wondering doubts in the process of learning should be recorded and solved in the traditional classroom by teachers or classmates face to face. If students don't step up training for a period of time, they may forget the main points of operation. At this time, they can go back to watch the teaching video online and repeat practicing, so that teachers can save time and effort to repeat answering questions. To some extent, it also extends teachers' teaching hours.

(3) Classroom teaching interactions. We encourage students to discuss and communicate with each other, develop cooperative and collaborative learning, as well as solve the common problems before class with less time. On the basis of the previous study, students can carry out the project design in the form of group cooperation. If they find problems, they can ask the teacher to guide to solve the problem in time, so the classroom teaching mainly changes from teaching to problem solving. At the end of the class, students hand in creative works, and the works will be evaluated[4]. New learning tasks will be carried out under the guidance of teachers, and teachers will answer and demonstrate the common problems of new tasks.
Feedback after class. Teachers can release the outstanding works of previous students to the WeChat public platform, so students can constantly improve their works according to the operating standards, and narrow the gap between the excellent works, or even beyond the excellent works. When students encounter problems, they can communicate with each other in groups through WeChat, record and solve the common problems with teachers in the classroom. After the students review and consolidate the basic knowledge through the WeChat public platform, they can expand learning on the network learning platform. Meanwhile, in terms of the problems in teaching, teachers need to constantly sum up experience and improve the teaching design.

Summary

The flipped classroom teaching supported by WeChat's public platform based on the blended learning mode gives full play to the features of multi-function and easy sharing of WeChat public platform. By putting the teaching activities to the mature WeChat application environment, the teaching mode of "demonstration + narration" is transformed into the teaching mode of "independent learning" and “teacher guidance”, and the learning based on "online + traditional classroom" is transferred to "anytime + anywhere" learning. Mobile phones, tablet PCs and other digital products have changed the learning style of college students, they make teaching activities can be carried out quickly in a short period of time, and provide some support for mixed learning, but also retain the systematic and structured characteristics of classroom teaching.

Acknowledgement

The research of this project is supported by Science Foundation for Young Teachers of WuYi University (2016sk04), Guangdong Provincial Department of Education, Guangdong provincial key platform and major scientific research project of “The Reform and Practice of the Blended Teaching Mode of Computer Aided Fashion Drawing” Course Based on the WeChat Public Platform” in 2016(2016GXJK165).

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