CURRICULUM REFORM OF "BASIC COLOR" IN ADVERTISING DESIGN IN QUANZHOU COLLEGE OF TECHNOLOGY UNDER THE "FLIPPED CLASSROOM" MODE

DANYAN ZHENG

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Advisor: ....

(Dr. Liao ZhiGao)

Date: ......26..../.......8....../....2023

....

(Associate Professor Dr. Jomphong Mongkhonvanit)

Dean, Graduate School of Business Administration

Date ..../............./.............

Siam University, Bangkok, Thailand

Title: Curriculum Reform of "Basic Color" in Advertising Design in Quanzhou College of Technology under the "Flipped Classroom" Mode

By: DANYAN ZHENG

Degree: Master of Business Administration

Major: Education Management

Advisor:

（signature）

....

(Dr. Liao ZhiGao)

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ABSTRACT

In the context of the transformation of higher vocational education in China, the traditional teaching methods of advertising design majors are no longer able to meet the professional needs of the new era. Especially in basic courses such as design sketches and basic colors, students are influenced by information technology, and traditional teaching and copying are clearly disconnected from the core courses of the profession. This study aims to analyze the classroom reform effects of traditional classrooms and "flipped classrooms", To achieve the following three research objectives: 1) To reform the classroom teaching mode and improve the utilization of class hours; 2) To optimize the structure of classroom teaching and improve the effectiveness of classroom teaching; 3) To promote students' learning enthusiasm and initiative, and improve their ability to apply color knowledge.
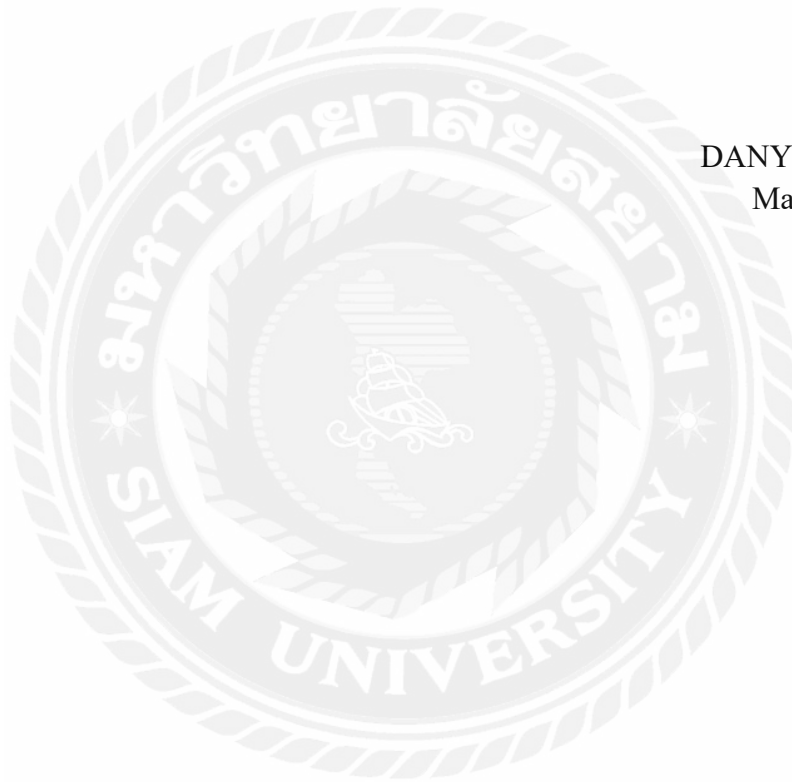
The research of this paper adopted the literature research method and questionnaire survey method to deeply explore the basic color course reform of advertising design major in Quanzhou college of technology, Fujian Province. Based on the characteristics of students majoring in advertising design in current vocational education, combined with the requirements of basic color courses and the classroom model of flipped classrooms, effective integration is carried out. The research results found that: Firstly, the flipped classroom reform not only improves the utilization rate of class hours, but also positively solves students' application problems in the classroom, greatly improving students' learning effectiveness, improving the difficulties encountered in basic course teaching, thereby improving teaching quality and mobilizing students' learning enthusiasm. Secondly, students can freely use their after-school time to repeatedly learn theoretical knowledge, The practical application ability has been greatly improved. It is hoped that this study can provide a reference basis for the reform of other basic courses in the advertising design major.

Keywords: higher vocational education, basic color, flipped classroom, curriculum reform

ACKNOWLEDGEMENT

DECLARATION

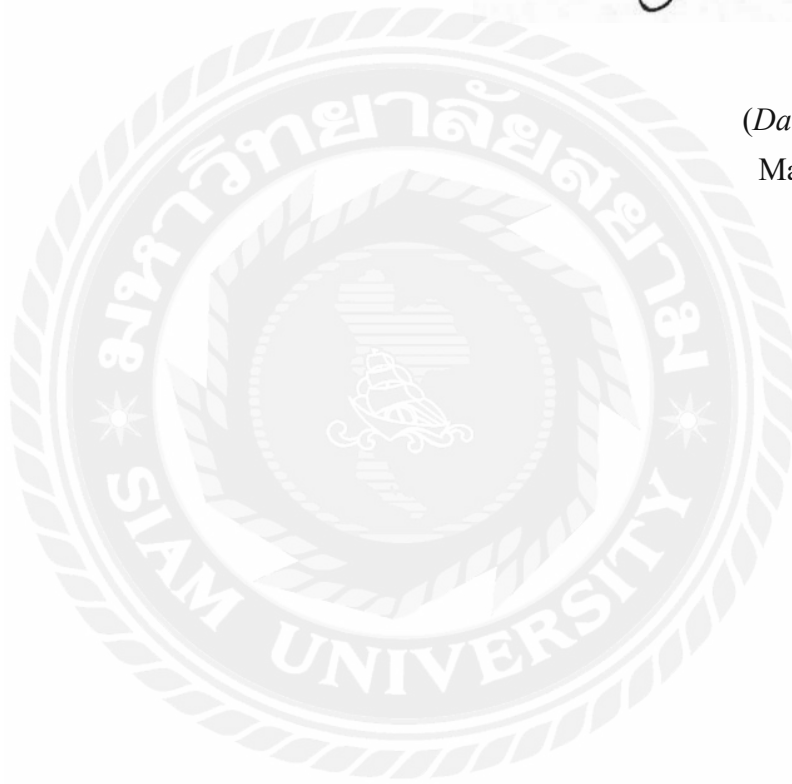*I, Danyan Zheng, hereby certify that thework embodied in this independent study entitled "Curriculum Reform of "Basic Color" in Advertising Design in Quanzhou College of Technology under the "Flipped Classroom" Mode" is result of original research and has not been submitted for a higher degree to anyother universityor institution.*

(*Danyan Zheng*)

March 30 2023

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Chapter 1 Introduction

1.1 Background of the Study

The United States is one of the most advanced countries in the teaching of art design majors in the world. The famous American psychologist Carl Rogers first proposed the educational concept of "student-centered," which caused a sensation in the American education circle at that time (Carl, 1956), and the World Conference on Higher Education in 1998 reached a consensus on this educational concept. The flipped classroom is translated from the Flipped Class Model, an open teaching model proposed by American education expert Maureen Lage (Lage, Platt, & Treglia, 2000). In flipped classroom teaching, the teacher is a guide and facilitator, while the students are the main body in the teaching process. The teaching method changes from traditional knowledge teaching to inquiry learning. Students watch teaching videos before class, and Practical exploration and multi-angle evaluation after class to complete the entire teaching process. The education of art and design majors in American colleges and universities focuses on students, through multi-professional and multi-disciplinary integration, the integration of inter-professional and inter-disciplinary knowledge and resources, and the cultivation of practical and innovative abilities. Through the participation and production of major projects, students are guided to complete the project study through different practical methods, exploration, and suggested revisions. Flexible inspiration and driven education methods can better inspire students' innovative thinking in learning.

As China's economic development has entered a new normal, the development of higher vocational education is facing "plateau phenomena" such as homogenization of talent training, insufficient reform and innovation, and low fit with the needs of the times. During the "14th Five-Year Plan" period, China's higher vocational education took the reform of "three teachings" as its core purpose, mainly based on the teaching reform guided by new concepts, involving comprehensive reforms of teachers, teaching materials, and teaching methods, to solve the problem of "who will teach" The core question of "what to teach" and "how to teach." With the rapid development of digital information technology, the continuous expansion of the connotation of reform, the increasingly prominent trend of intelligence, the diversification of learning methods, intelligence, IoT, cloud computing, big data, etc., and various new network technologies have evolved. The comprehensive promotion and application of terminal equipment have continuously promoted the deepening reform of education. For the advertising design major in higher vocational colleges, the teaching content, teaching methods, teaching objects and other aspects have certain particularities. They are constantly under the impact of information technology. The traditional classroom and modern art design methods have undergone major changes. New thinking and

new technologies cover the field of education in an all-round way, so the disadvantages of the old professional course teaching mode are gradually revealed (Lin, 2011).

Due to the in-depth exploration and research of flipped classrooms by scholars from various countries, since 2011, Chinese education scholars have also begun to research and explore flipped classrooms. Scholar Zhang Jinlei from Nanjing University, as the first group of leading educators in the education industry in China to study the flipped classroom teaching model, pointed out that informatization and collaborative learning can lay a solid foundation for the environmental construction of the flipped classroom teaching mode. He took the American Robert Talbert converted classroom structure model as a reference object, and established a complete and reasonable flipped classroom teaching model (Zhang, 2016). Then, there was a wave of research on flipped classrooms in Chinese academic circles. Many workers in the field of education actively devoted themselves to the exploration and study of teaching reform strategies for flipped classrooms. Look, the scope of study is only limited to primary and secondary schools, and research on colleges and vocational colleges is relatively lacking. Therefore, the author believes that this research has practical significance, and provides reference ideas and thinking for art teaching in higher vocational education.

1.2 Problems of the Study

At present, vocational education reform is at a critical stage. Still, many reforms are carried out around the teaching content, such as introducing "projects" in the teaching process to meet the teaching effect and meet the job requirements; the teaching method is still "teaching-centered," teachers occupy a dominant position in the classroom to teach students theoretical knowledge, students are in a passive state and numbly accept the indoctrination of academic knowledge, the efficiency and quality of the school are low (Lin, 2011).

As a basic professional course in advertising design, the primary, introductory color course enables students to master the principles of color use and color matching skills in the process of art design through systematic study and research of color laws. It provides a solid professional foundation for professional core courses (Li, 2004). However, in the teaching process of higher vocational colleges, there are many common problems in the teaching of the same type of introductory art courses:

1. The course hours are short, and the learning content is limited;

2. Students passively accept the learning mode of copying color works, and ignore students' diversified practice;

3. There is a disconnect between color teaching and color application;

The core content of color knowledge lies in the characteristics and general rules of color. Students refer to actual color cases in the actual work process. For example, in the process of packaging design, poster design, and other programs, students apply color knowledge . In the actual work process, various problems often appear, there are many hindering factors, and the work is stagnant.

1.3 Objectives of the Study

The primary color course is an important basic course for advertising design in vocational colleges. It is necessary to build a new teaching model to solve the impact of information technology on introductory techniques and redesign the basic classroom model in line with advertising design in higher vocational colleges to improve students' basic knowledge and skills. The phenomenon of disjointed knowledge application provides new ideas for the reform of other introductory courses for advertising majors.

1. To reform the classroom teaching mode and improve the utilization rate of class hours.

2. To optimize classroom teaching structure and improve classroom teaching effectiveness.

3. To promote students' learning enthusiasm and initiative, and improve students' ability to use color knowledge.

1.4 Significant of the Study

The flipped classroom teaching mode conforms to the new trend of China's higher vocational education reform, that is, innovative teaching and learning mode. The flipped classroom teaching mode can effectively cultivate and enhance students' creativity and teamwork ability (Jeremy, 2007). Higher vocational education continues to develop. On March 28, 2022, the official launch of China's national vocational education innovative education platform accelerated the pace of higher vocational education construction, and the exploration of digital transformation to drive changes in teaching models and governance methods has continued to deepen.

As a new teaching mode developed in recent years, the flipped classroom has significant theoretical value in promoting standard school curriculum.

Reform workers in higher vocational education must actively invest in the exploration and research of new teaching methods and concepts, make full use of various modern information technologies, be employment-oriented, and attach great importance to the individualized and diversified development of students. Cultivate students' innovative and collaborative abilities, to realize the overall improvement of the quality of talents in higher vocational colleges. The introduction of the flipped, or a flipped classrooms in the curriculum reform of higher vocational education is needed for the change of the times. This time, the concept and application of flipped classrooms were studied, and the reality of introductory color courses in higher vocational education was also studied. Many teaching problems to be solved were found. The flipped classroom model is injected into the primary color course to improve the teaching quality of the system in theory and practice (Jeremy, 2007).

1.5 Limitations of the Study

At this stage, the author's professional level and research ability are limited, so there may be limitations in the expression of the article's argument, the tightness of logic, and the correlation between theory and time; in addition, the country where the author is located-China, this article studies Due to the early epidemic situation, the author has many inconveniences in the process of obtaining flipped classroom application data at home and abroad. Therefore, there is still room for further improvement in the accuracy of the analysis of the effectiveness of curriculum reform.

1. How to achieve the expected effect of the flipped classroom teaching mode is a complex problem that educators have been exploring during the implementation process. Teachers not only need to face and solve students' learning problems in the classroom, but also need to be a "reserve force," which puts forward higher requirements for teachers' teaching design ability before, during, and after class (Mok, 2014).

2. The realization of the flipped classroom is inseparable from the improvement of the application of teaching technology. To fully realize the teaching goals, a good teaching management platform is required, which is the technical basis for the practice of the flipped classroom. The school's current teaching facilities only support the implementation of flipped classrooms in a small number of schools, and the conditions of many schools, such as technology, funding, and management, are not enough to support the implementation of flipped classrooms in a large scale. Therefore, it is necessary to wait until the time is right to carry out large-scale promotion, which requires the government and society to increase investment in education (Lage, Platt, & Treglia, 2000).

3. The time management of the flipped classroom requires educators to spend more time on maintenance. How to balance the working time of educators is also a complex problem encountered in this research.

Chapter 2 Literature Review

2.1 Introduction

Foreign exploration and research on flipped classrooms has reached a relatively mature state, and many classic practice models have been proposed, which can be used as an essential reference for the reform and innovation of teaching models in the domestic education field. Through the combing and analysis of a large amount of literature, it can be seen that most of the literature conducts in-depth practical research on the theoretical basis of constructivism theory, mastery learning theory, and self-organization learning theory.

2.2 Related Concept Definition

The higher vocational education in this paper mainly refers to China's independent higher vocational colleges, higher vocational colleges, and private vocational-technical colleges. The primary source of students for such institutions are graduates from regular high schools, vocational high schools, junior colleges, and technical schools, with a study period of 3 years. About the goal of cultivating higher vocational talents, a consensus was reached through extensive discussions in the first stage; that higher vocational education is to develop technology-applied skills (Ren, 2007).

The primary color course is one of the introductory art courses in China's higher vocational education. It not only emphasizes the training and cultivation of students' thinking abilities, but also emphasizes the cultivation of students' abilities. It is a compulsory course for art students. By studying this course, you can learn the knowledge of color application, better carry out color design, so that students can widely improve their ability in design and use of color, and at the same time, strengthen the cultivation of students' ability to master the practical operation of design software, for the follow-up professional Provide strong support for course study. With the deepening of the reform of higher education, the reform of primary color teaching in art education has attracted more and more attention from experts and scholars. The teaching methods that followed the color teaching mode of the former Soviet Union for a long time in the past are increasingly unable to adapt to the current situation of color teaching in modern higher education art majors. Adapting to the diversified development of contemporary art, combined with the basic principles of contemporary color science, it systematically discusses the teaching methods of color limitation, color block combination and contrast, color shift, color texture, etc, as training methods, to achieve a systematic mastery of color knowledge , expressing the purpose of color (Li, 2004).

In 2014, the Flipped Learning Network (FLN) of the United States defined the "flipped classroom": "Flipped classroom is a teaching method. In the flipped classroom mode, the traditional collective classroom teaching is replaced by individual learning, forming a new dynamic and collectively interactive classroom environment where teachers guide students in applying concepts, actively participating, and creating concepts." (FLN, 2014). (1) Flipped classroom is a teaching method, not educational technology, and the integration with educational technology is not a distinguishing feature of the flipped classroom; (2) The content of traditional classroom teaching has changed to personal learning content under the guidance of teachers, and to a certain extent, personalized teaching; (3) The flipped classroom is a brand-new interactive classroom: teachers design discussion activities, students actively participate in the interaction, constructivist learning theory believes that learning is the interaction of existing knowledge and past knowledge, and new knowledge is generated immediately (Major, 2015); (4) The design principle of the flipped classroom is: complete the memorization and comprehension tasks with low difficulty after class, and complete the application innovation tasks with great difficulty in class. The design of teaching tasks is easy to challenging and progressive, and Promotes the improvement of students' profound thinking ability in the learning process.

The fact is proven by research, that is, as the teaching method changes from passive to proactive, there are often more choices for students' learning methods. In this teaching mode, the Student Union will Find more ways to participate in activities, from initiative to constructive, and hope that students will provide novel results (Chi, 2009). These results far exceed the theoretical knowledge introduced to them in class lectures. Hake found in a large number of students samples that compared with students studying in traditional classrooms, students who actively participated in learning in class have made more significant progress in specific classroom projects. Methods did affect students' ability to solve problems (Hake, 1998). Prince conducted experiments to analyze the influence of active learning strategies, and found that the use of active learning in the classroom improves students' learning ability (Prince, 2004).

Entwistle & Peterson, in their study, propose an abstract structure that highlights the factors that influence student learning. Of all the factors that affect student learning, one major factor is the teaching ecosystem, which, in addition to the way the classroom structure itself is designed, also includes the way teachers organize and present course content. In early literature, Entwistle points to such a conclusion, that is, teacher-centered and syllabus-oriented. Usually, the school's teaching perspective is always aimed at passing information from teachers to students, which ultimately leads to limited knowledge concepts for students. On the contrary, in the student-centered teaching method, teachers must play the role of facilitator, which will make students actively and deeply understand the concepts learned, which is conducive to lifelong learning of students (Entwistle & Peterson, 2004).

Dollar & Steif attempted to use the flipped classroom to teach statistics using an online system that included simulations and virtual laboratories that facilitated interactive learning. The flipped classroom model typically involves flipping or reversing activities are usually performed in and out of the classroom. This means that instead of passively listening to lectures in class, students are expected to complete a series of preparations outside the school, whether at home or in class during their free time. This preparation often takes the form of online or virtual resources identified by the course instructor. As practice is expected to take place outside the classroom, teachers can use instructional time in the school to guide student learning. When students collaborate on a set of activities assigned for a class, the teacher leads a discussion of this content in category (Dollar & Steif, 2009).

In their article "The Internet and the Inverted Classroom," published in the Journal of Economics and Education, Lage and colleagues experimented with the flipped classroom model, coining the famous buzzword "flipped classroom." Then, the method of flipping the classroom was verified here by (Fulton, 2012) and (Bergmann & Sams, 2012), and it has been developed to a large extent in the teaching process of higher education.

2.3 Research Framework

For the introductory color course of advertising design major in higher vocational education, based on the stylized learning and teaching methods in the traditional classroom, the unsatisfactory teaching effect, and the short-range color teaching and color application, this study introduces the flipped classroom model in the primary color course.
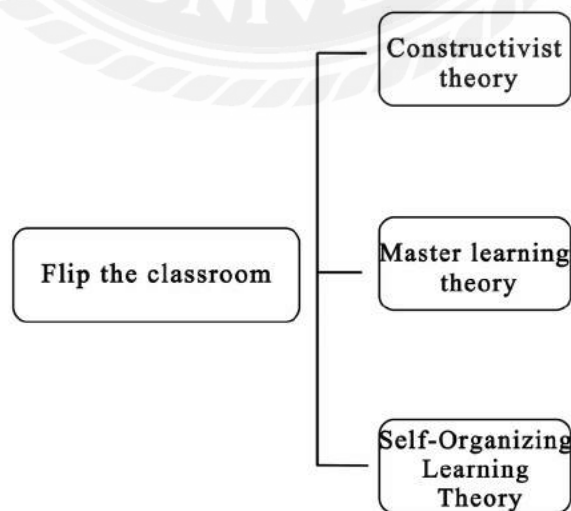

Figure 2-1 Research Framework

2.3.1 Constructivist theory

The flipped classroom conforms to the theory of constructivism. In the traditional teaching mode, the teacher instills knowledge into the students. The teacher is the center of the entire teaching behavior, the imparter of knowledge, and the leader of teaching, while the students are passive recipients of external stimuli. The constructivist theory advocates learner-centered learning under the guidance of teachers, and believes that knowledge acquisition is not a simple "stimulus-response" process from teacher to student, as stated by behaviorism, but an approach of self-discovery by students. Process (Piaget, 1970). The flipped classroom can be regarded as a teaching method of the creative learning experience, emphasizing the enthusiasm and initiative of students in the learning process, and its core idea is that students acquire knowledge by exploring practical problems and gaining experience . In the basic color curriculum reform, the essential theory of flipped classroom can include the following aspects:

1. Put students at the center of learning. In his book "Student-Centered Learning Environments", Frederick Druckerstein pointed out that students' self-development and learning are more likely to occur in a learning environment centered on them (Drucker, 1999). The flipped classroom first focuses on the students themselves. Each student has their differences and learning styles. Teachers should design courses according to the learning characteristics and needs of students, so that students become the leaders and participants of the learning process. Being at the center of learning increases their motivation and engagement, improving learning outcomes (Mulryan-Kyne, 2010).

2. Student autonomy. It means that students take the initiative in the learning process, and have the right to choose and design their learning plans. This style of learning sees students as partners rather than passive recipients, helping to develop motivation and skills for self-directed learning in students. In the flipped classroom, students independently choose the rhythm and method of learning. They can repeatedly play videos, view materials, and review notes. Students learn according to their rhythm and needs.

3. Emphasize student self-discovery and collaborative learning. The theoretical basis of student self-discovery and cooperative learning is that students should learn from their actions, rather than passively accept knowledge and skills. Students should be exploring and discovering things, not being told how to solve problems. In the flipped classroom, students can not only choose the learning process independently, but also explore knowledge independently, because the learning process is completed through self-discovery and mutual assistance. This approach is not only highly interactive, but can also deepen communication and cooperation among students (Abarca, 2018).

4. Take advantage of new technologies. In the flipped classroom, teachers can provide learning resources through various technical means, such as video, audio, animation, images, and interactive teaching software. These resources can help students better understand and acquire knowledge.

2.3.2 Master learning theory

One of the most sifnificant advantages of flipped classroom teaching is that in the stage of knowledge imparting, students can master their learning. After the flipped classroom, students can arrange and control their learning according to their situation by using teaching videos. Students watch teachers outside of class or at home. The video explanation can be carried out in a relaxed atmosphere, without worrying about missing something or not being able to keep up with the teaching rhythm because of the teacher's full teaching in the classroom. The rhythm of the students watching the video is determined by the Master yourself you can fast-forward or skip the parts you understand, watch the parts you don't understand repeatedly, stop to think carefully or take notes, and even ask teachers and classmates for help online. Therefore, the two aspects of flipped classrooms The two founders, Jonathan Pullman and Yaron Sam, believe that the theoretical basis for flipping the classroom is none other than mastering learning theory (Bloom, 1976).

The Theory of Mastery Learning is a school classroom learning theory put forward by Bloom, a famous contemporary American educational psychologist and curriculum theory expert, which reflects Bloom's basic educational thoughts and theoretical views. The so-called "Mastery learning" is under the guidance of the idea that all students can learn well, providing students with the individualized help they need and the extra learning time they need, so that most students can reach the mastery standard stipulated by the curriculum objectives. As long as enough is given With time and proper instruction, almost all students can master virtually all the content, and usually can complete 80%-90% of the evaluation items (Bloom, 1976). The difference in the learning ability of students does not determine whether they can learn The content to be learned, and the quality of learning can only decide how much time they will spend to achieve mastery of the content.

2.3.3 Self-organized learning theory

Theoretical assumption and premise for the development of flipped classrooms is to admit that students may not need to rely on the indoctrination of teachers, but rely on the support of computer technology and network technology, and learn anything through self-education and mutual-aid education; this theoretical assumption is self-education-rganizational learning theory. Self-organizing learning theory is the education and learning theory summarized by Indian educator Sugata Mitra through the famous "hole in the wall" education experiment. Sugata Mitra, in the remote mountains of India, Komura placed a "computer on the wall" and installed a camera to

monitor children's learning behavior, and found that "learning is a kind of self-organization behavior" of students. With the support of computer and network technology, any student can teach himself and his peers any knowledge and skills (Mitra, 2009), thus further advancing the constructivist learning theory and time, machines and technology can not only replace part of the role of teachers, but also do better than teachers in some aspects, the greatest joy and motivation of learning It can teach others to learn (Mitra, 2009).

With the development of Internet technology and the opening of educational resources, human learning will inevitably develop from "other organization" to "self-organization." Self-organization learning will become the main learning method of human beings. A flipped classroom is essentially a kind of educational technology help. Self-organized learning, with the support of teaching videos, students can form learning groups by themselves, not only to complete personalized education of knowledge, but also to complete their expansion and innovation of knowledge and develop critical thinking through collaborative inquiry, display and communication, and meaning construction and creative ability (Mitra, 2009).
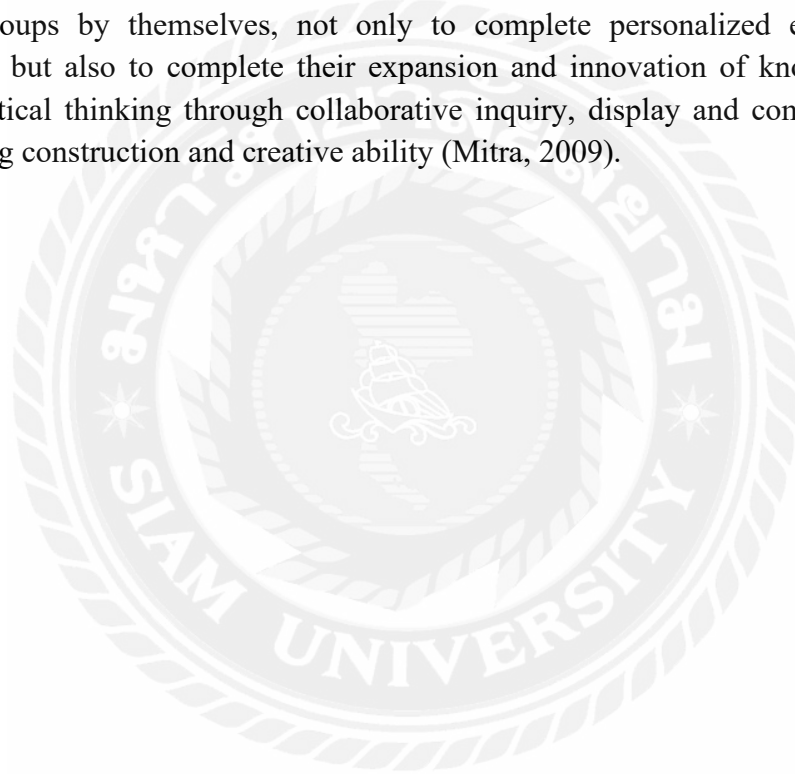
Chapter 3 Research Methodology

3.1 Introduction

This study uses quantitative research methods. Frederick Druckerstein pointed out in "Student-Centered Learning Environments" that students' self-development and learning are more likely to occur in them-centered learning environments (Drucker, 1999). Therefore, the flipped classroom model is introduced into the advertising major of Quanzhou Light Industry Vocational College, and the primary color course reform is used to explore the learning effect of students. Investigate the teaching evaluation of the primary color course under the flipped classroom mode to adopt an online method. The teacher sends the electronic questionnaire link to the student class group through WeChat, statistically processes all the data collected by the questionnaire through SPSS software and questionnaire star, and finally distributes 80 student questionnaires. , 77 copies were recovered; 31 teacher questionnaires were distributed, and 31 copies were recovered. Use SPSS intelligent analysis for data processing and analysis, using frequency, crossover, correlation and other analysis methods.

3.2 Research Design

The course research is carried out in the course of color advertisement application in the primary color course of advertising design major in higher vocational colleges. The reason for choosing this part of the course to carry out flipped classrooms is that this chapter requires students to apply color to specific projects. The flipped classroom can add more interaction and technical support to the application part of this course. Participants this time:

1. Randomly select students from 1 class among the four classes of freshmen majoring in advertising as class participants, a total of 80 students.

2.12 professional course teachers who are also in charge of the course will make listening and evaluation records system.

In the 72 class hours of the whole course, the author chooses 10 class hours to carry out the flipped classroom teaching of color advertising application. Because the teaching requirement of this chapter is the specific application of paint, the author chose the project of the application of color in a brand festival poster; that is, students need to design the festival poster according to the brand design style of a particular brand to complete the application of color. Since it is time-consuming to understand the concepts and related cases in this chapter in the classroom, students will enter this chapter of the course through the Chaoxing Learning Link platform before class for

pre-class learning and complete the learning tasks of this chapter. In the style, a group of 4 people will carry out creative design and construct the creation of the brand's festival poster.

The following team-building strategy will be arranged in order according to the student number, and the students will be divided into 20 groups. During classroom teaching time, the same group must sit together. Brainstorming within the project design team will promote the after-class in each classroom flip Learning makes the classroom full of vitality.

3.3 Hypothesis

Through this study, it is not difficult for us to see the status quo of the primary color courses of advertising design in higher vocational colleges, how to reform the professional introductory practices, solve the problem of students' knowledge and application faults, and how to improve the professional application ability to cultivate applied talents better. According to the practical introduction of the flipped classroom, we can put forward the following assumptions:

H1. Students learn concepts before class, and traditional "after-class assignments" are completed during class time. The class design is conducive to personalized teaching and improves the utilization rate of class hours.

H2. Class time is mainly used to solve key and difficult concepts or help students encounter problems in the practical application of color design, which is conducive to students' better application of professional knowledge.

H3. During the learning process, students provide design assistance in groups, with a clear division of labor. Active learning in the classroom helps to improve student's learning ability.

3.4 Data Analysis

The author used Questionnaire Star and SPSS to process the returned questionnaires, and analyzed the data with two methods: percentage analysis and descriptive statistics analysis. In the end, 80 questionnaires were distributed to students, and 77 were returned. Classroom teaching completed the related learning content, distributed 32 teacher questionnaires, and recovered 31 copies, and the surveyed teachers were all professional teachers of higher vocational education. A total of 21 test questions are designed for the student questionnaire, and 8 test questions for the teacher questionnaire. Online SPSS software is used for data

processing and analysis. Frequency, cross (chi-square), correlation, etc., are the primary data analysis methods to analyze the questionnaire.

The percentage analysis method makes the collected data more clearly and intuitively reflect students' evaluation of the flipped classroom. Through descriptive statistical analysis, the obtained data can be summarized and summarized to understand better the problems existing in classroom reform. Multiple data analysis Summarize the influencing factors. Logical reasoning is carried out on this basis, which provides a valuable reference for the primary course reform of advertisement design in higher vocational education.

3.5 Reliability and validity analysis of the scale

Reliability, that is, reliability, is the degree of consistency of the results obtained by repeated measurement of the same object with the same method. Reliability refers to the degree of character of the results obtained by repeated size of the same thing with the same way. That is, reliability reflects the scientific degree of the survey data (Li, 2008).

Cronbach coefficient, as a statistic, is the most commonly used reliability test, which refers to the average value of the discounted half-reliability coefficients obtained from all possible item division methods of the scale. Usually, the Cronbach's coefficient takes a value between 0 and 1. If $\alpha<0.6$, it means that the reliability is not enough; if the α coefficient is between 0.7-0.8, it means that the reliability is good; if the value of α is 0.8-0.9, it means that the reliability is very reliable.

It can be seen from Table 3-1 that the Cronbachs alpha coefficient of the class student questionnaire is 0.989>0.8, and the Cronbach alpha coefficient of the isomorphic teacher questionnaire is 0.941>0.8, indicating that the reliability of the data is high.

Table 3-1 Cronbach reliability analysis of student and teacher questionnaires

Questionnaire	Sample Capacity	Cronbach α Coefficient
Student Questionnaire	77	0.989
Teacher	31	0.941

Validity refers to the degree to which a measurement tool or method can accurately measure the measured thing, and the degree to which the measurement result reflects the survey content. If the result is more consistent with the survey

content, the validity is higher, and vice versa, the truth is lower. Generally speaking, the truth of the KMO value between 0.6-0.7 is acceptable, the KMO value is between 0.7-0.8, the truth is good, the KMO value is between 0.8-0.9, the truth is excellent, and the KMO value is between Between 0.9-1, the effectiveness is excellent.

Table 3-2 Student questionnaire KMO and Bartlett's test

KMO value		0.893
Bartlett Sphericity test	Approximate Cardinality	738.72
	df	2966.97
	P-value	0.00

Table 3-3 KMO and Bartlett's test for the teacher questionnaire

KMO value		0.707
Bartlett Sphericity test	Approximate Cardinality	287.24
	df	28
	P-value	0.00
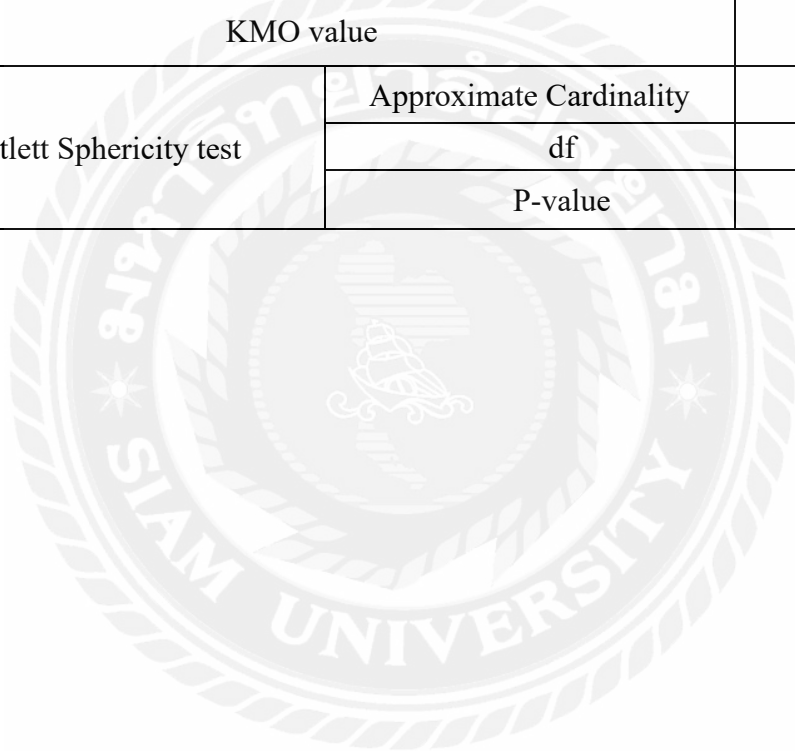
Chapter 4 Finding

4.1 Introduction

After sorting out the data, the author combines the obtained data with the flipped classroom pre-class learning enthusiasm, in-class learning participation, and after-class satisfaction to analyze the problems to be solved in the flipped classroom style. Analyze the degree of improvement of students' learning enthusiasm in 10 flipped classrooms, and verify the hypothesis. Using various methods such as online and offline, extensively collected and consulted literature on this topic, analyzed and summarized the research and practice results of flipped classrooms and practical teaching, grasped the inherent nature of flipped classrooms, and contributed to the overall research situation of flipped classroom teaching. Fully understand, and understand, and provide a theoretical basis for the design and practice of the flipped classroom teaching mode of the primary color course of advertising design course in vocational colleges.

4.2 Description of statistical variables
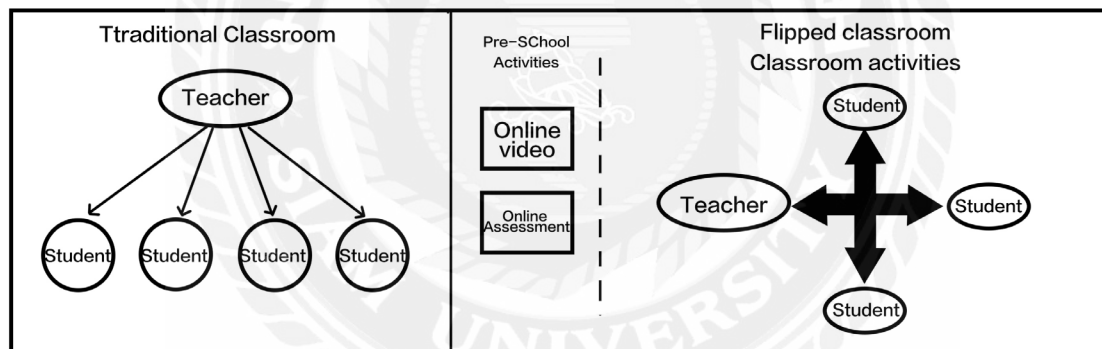
Figure 4-1 Traditional classroom and flipped classroom model

In Figure 4-1, the right part depicts the flipped classroom model. In this approach, students must go through online resources and complete online assessments to ensure that students are prepared before class so that the course can actively participate in class discussions. Activities in the classroom may include solving essential problems, arguments, brainstorming, design work, and more. Students need to cooperate with their peers to complete classroom activities, while teachers serve as guides and lend a helping hand in case of any difficulties. If several students have similar questions, teachers can utilize instant teaching（Novak, Gavrin, Wolfgang, & Patterson, 1999).
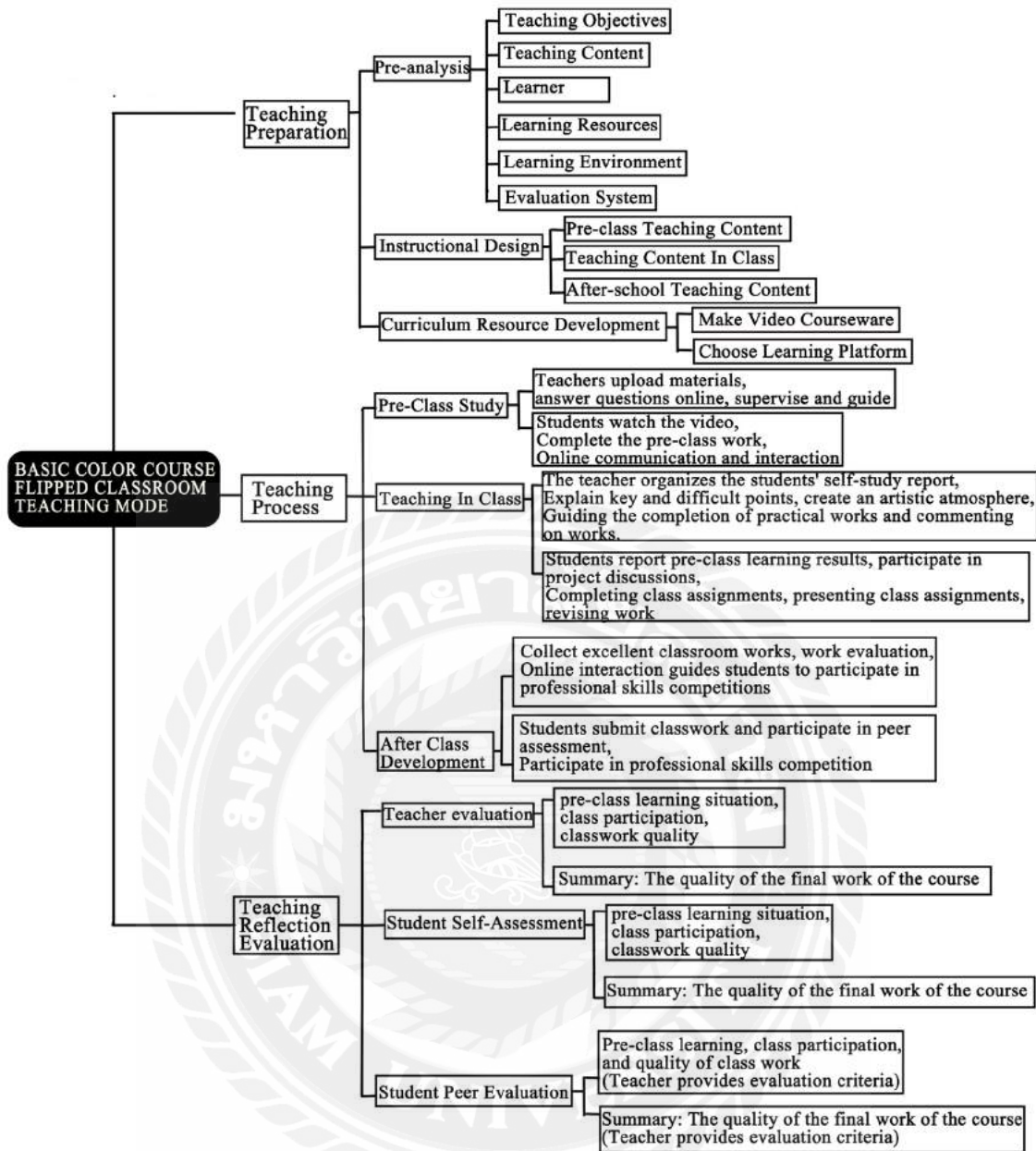
Figure 4-2 Flipped classroom theory course flowchart

During each flipped classroom implementation, data on student participation in discussions was collected. The engagement component includes student engagement on the learning platform and in the classroom.
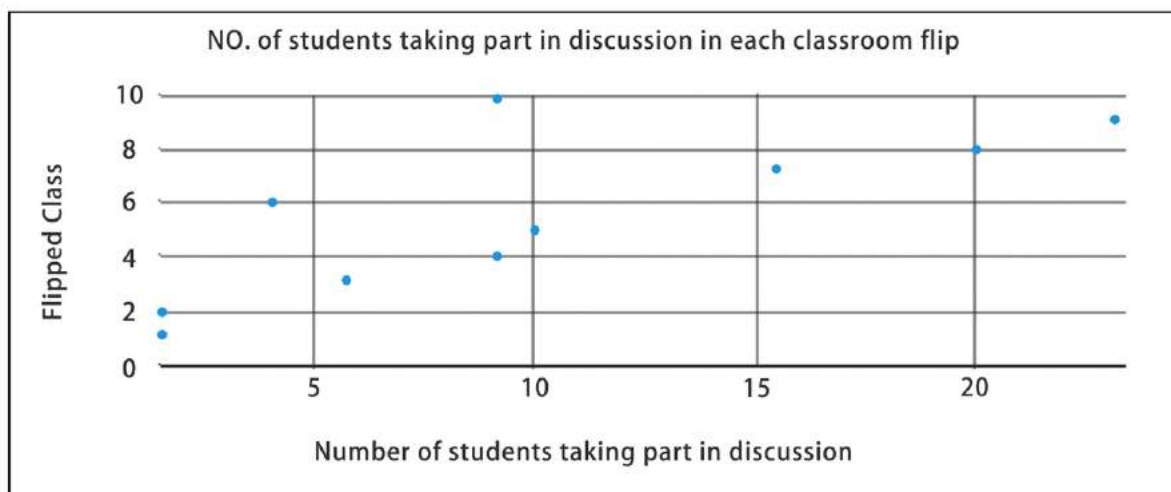
Figure 4-3 Progress of student engagement during each flipped classrooms

As shown in Figure 4-3, during the first few times of classroom flipping, participation was low. Through communication students pointed out that the low engagement was mainly due to the novelty of the flipped classroom model, as they had never experienced it before, so it took them a while to realize the flipped classroom model. Another factor that affects student engagement is the size of the video lecture. Due to the length of the video resource, most students ended up watching only the 3-minute introductory video. As students become familiar with the flipped classroom, student participation gradually increases.

To assess the impact of flipping classroom technology into classrooms, several classroom flips were evaluated at the end of the course. As shown in Table 4-1, Evaluation 2 performed better than Evaluation 1. This is mainly. After all the students performed better than the first time because they became familiar with the flipped classroom model the second time.

Table 4-1 Student performance on multiple assessments

I Assessment Marks	II Assessment Marks	Total Marks
2	6	10
3	3	10
4	9	10
3	9	10
2	9	10

6	5	10
5	8	10
6	6	10

4.3 Results of the Study

In this flipped classroom teaching, to more intuitively and objectively show the effect of the flipped classroom of "Basic Color," and understand the students' honest thoughts, the author designed Table 4-2 "Flipped Classroom" Teaching Evaluation Index System as follows:

Table 4-2 Teaching evaluation index system of a flipped classroom

Type	Before Class	In Class	After Class
Teacher Self-evaluation	The teaching design is complete, targeted and conforms to the basic norms; The online learning resources are well-prepared and supported, and the difficulty and load of learning tasks are suitable for self-completion	Carry out the teaching organization and complete the teaching content according to the plan, and clearly explain the learning difficulties and students' problems; Pay attention to all kinds of students in class, interact well with students, and achieve teaching goals	Measurement and analysis of student learning effects, reflection on classroom teaching design and teaching organization; Provide students with learning support, answering questions, and counseling; Emotional harmony between teachers and students, personal teaching experience satisfaction
Student self-assessment	Clear learning goals and tasks, and be able to prepare for new content learning knowledge and skills; Complete tasks such as independent study, self-test, study report, and study questions as required	Completion of class listening, speaking, questioning and answering, and the coherence of classroom learning and pre-class learning content; Comprehension, mastery and application of classroom teaching content, whether there are comparative problems, thinking	The degree of challenge of after-school tasks, whether they can complete tasks independently or cooperatively; The experiential gains of learning collaboratively with peers; The experience, harvest and satisfaction of learning under the guidance of teachers

| Peer evaluation | Network resources, teachers' preparation for instructional design Complete student learning | Evaluation of teachers' classroom teaching organization ability, appeal, and adaptability; Concentration of classroom students, breadth of interactive participation, and effect evaluation; Appropriateness, novelty and applicability of teaching content; Rationality and effectiveness evaluation of teaching organization mode design | The scientificity, motivation and diversity of student learning evaluation and measurement method design; Evaluation of network platform, school environment, and classroom teaching technology support; Overall listening experience is good |

According to the "Flipped Classroom" teaching evaluation index system, appendix A: "Flipped Classroom" Teaching Student Self-evaluation Form," Appendix B: "Flipped Classroom" Teaching Peer Evaluation Form" and Appendix C: "Flipped Classroom" Teaching "Teacher Self-evaluation Form," which will be sent to all students participating in this teaching practice course, colleagues in the course group who came to observe and guide, and myself to fill in at the end of the course. Collect and organize the following two forms. Among them, Table 4-3 "Flipped Classroom" Teaching Quantitative Evaluation and Analysis Sample Form" teachers' self-evaluation is calculated according to the weight of 40% before class, 40% during course, and 20% after class; student self-evaluation is calculated according to 40% of course and 40% during course, 20% weight calculation after class; peer evaluation is based on 80% evaluation in class, and 10% weight calculation before and after class.

Table 4-3 Sample form for quantitative evaluation and analysis of flipped classroom teaching

Project	Before class	In Class	After Class	General Comment	Satisfaction Index	Consistency Evaluation
Teacher Self-assessment	33	36	19	90	Satisfy	--
Student Self-assessment	34	37	18	89	Satisfy	--
Peer Review	8	76	8	92	Satisfy	--
General Comment	--	--	--	90.33	--	--

Table 4-4 Sample table for qualitative evaluation of flipped classroom teaching

Project	Teacher	Student	Peers	Consistency Recommendations
Advantage	The rhythm of the classroom is correctly grasped, The classroom atmosphere is good, The color extension of classroom work is better	Interest in learning has increased, Have the desire to explore in-depth knowledge of color matching, Clear thinking in the process of completing the assignment, many inspirations	Abundant learning resources, The classroom rhythm is well grasped, classroom efficiency is high, Students are highly focused, Active participation in class	Make a schedule of pre-class learning tasks, Encourage students to learn consciously, Teachers take the initiative to guide learning enthusiasm is not high, Students with poor professional foundation speak in class, In the mutual evaluation of works, the evaluation criteria should be more specific. Considering the relationship between students and the subjective feeling of the work, To refine the work evaluation criteria
Insufficient	Lack of interaction when recording micro-videos, Emotional attitudes and values cannot be reflected; It is difficult to guarantee online time before and after class	Willingness to speak up is not strong, Worried about saying bad, The subjective influence of grading students after class is relatively large	Individual students did not keep up with the rhythm of the classroom, Group discussions are not active, The contribution to the process of completing the work is not high	
Suggestion	Play the role of learning backbone and group leader, Improve pre-class learning supervision system	Provide more opportunities for online discussions	Encourage students to actively speak, Pay attention to every student	

In addition, the author also designed Appendix D, "Flipped Classroom Teaching Student Questionnaire," to investigate students' learning design, learning resources, learning methods, and learning gains with a total of 21 questions, combined with

"Flipped Classroom" Teaching Quantitative Evaluation and Analysis Sample Form" and "Flipped Classroom" Teaching Qualitative Evaluation and Analysis Sample Form," analyze the teaching results obtained in the flipped classroom mode of "Basic Color," find out the advantages and disadvantages in the teaching process, and put forward suggestions for improvement. It can be seen from Figure 4-4 that 48% of the students strongly agree, and 27% of the students somewhat agree with the teaching design of this flipped classroom.
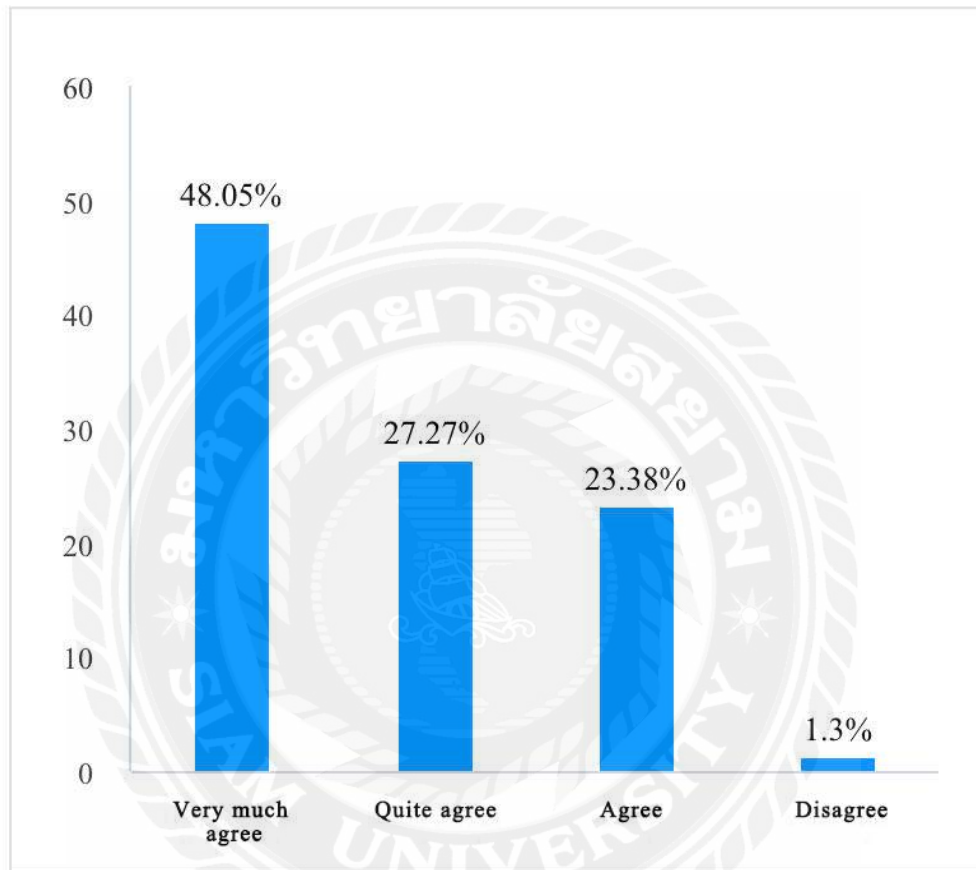
Figure 4-4 A Survey of Students' Satisfaction with the Instructional Design of Flipped Classroom

In the learning resources module of the questionnaire survey, in Figure 4-5, 50.65% of the students strongly agree, and 24.68% of the students relatively agree that the course teaching adopts the network platform, which can make students more convenient, efficient, and convenient for students to learn and communicate independently. Verifies the author's hypothesis H1, the flipped classroom reform improves the utilization rate of teaching hours.
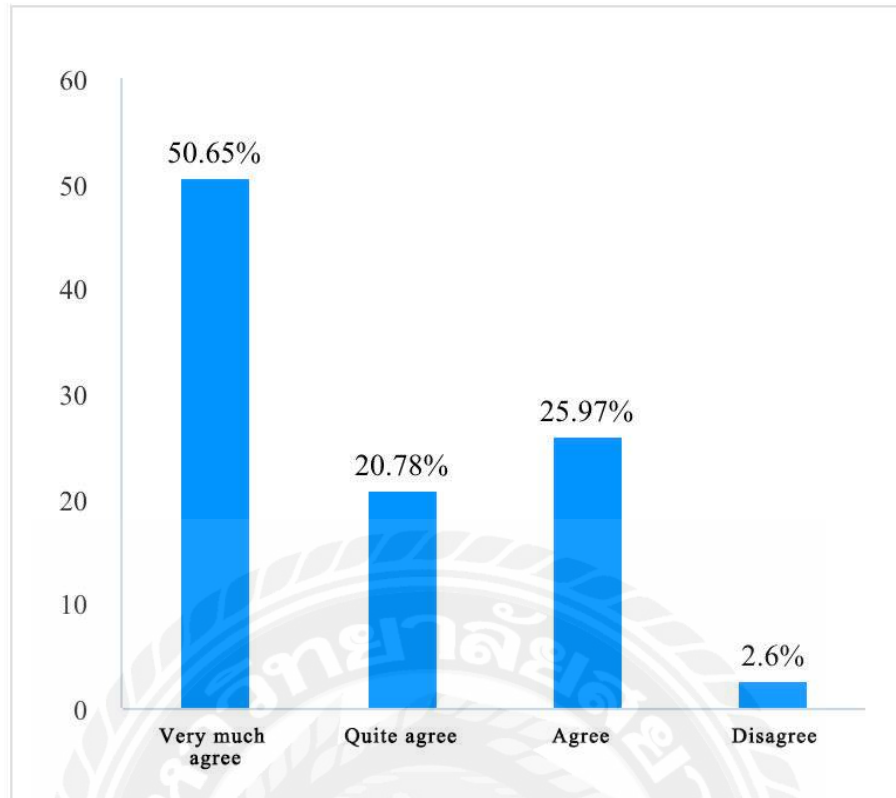
Figure 4-5 Students believe that online course platforms can improve
independent learning and communication.

The primary purpose of teaching with the flipped classroom model is to ensure that students remain active in the classroom. By moving instructional time out of the school, class time can be used for multiple activities to keep students engaged. This study aims to discover students' preferences for flipped classroom implementation. As the research progressed, it was found that improvements to the performance in terms of customizing and shortening the length of the video resources and changing the classroom activities received positive feedback from the students (Gilboy, Heinrichs, & Pazzaglia, 2015).

With more and more flipped classrooms, most students start to watch shared video resources to gain the technical knowledge needed to learn the courses. Since the videos are stored on the Chaoxing Learning Link platform, students can watch them repeatedly until they grasp the concepts. Most students rewatched the video because they were distracted the first time they watched it. Some comments from students indicated that the flipped classroom learning method can eliminate some of their problems in the design process, which are often avoided in the traditional classroom model because they cannot be solved in time.

Through the analysis, the author also found that students prefer to use class time to interact with team members and solve problems, rather than listening to teachers

explain concepts and cases directly. The class has their own time to design the project, and they can discuss the difficulties encountered in course.

Analysis of the collected data indicated trends in student engagement and performance during classroom flipping. As the semester progressed and courses were flipped several times, students gradually entered the best state. Student engagement, both online and offline, increases with the number of classroom flips. Also, students performed better on the second assessment due to the familiarity factor (Caliskan & Bicen, 2016).

Additionally, to gauge students' impressions of the flipped model's execution, a survey was conducted toward the end of the course. Let students be evaluated on traditional classroom teaching methods and flipped teaching methods. As shown in Figure 4-6, students' evaluation of the flipped teaching method is higher than that of the traditional classroom. Even in the feedback of the questionnaire survey, it is shown that they like the flipped classroom model. As shown in Figure 4-7, students can have a more comprehensive grasp of course knowledge.
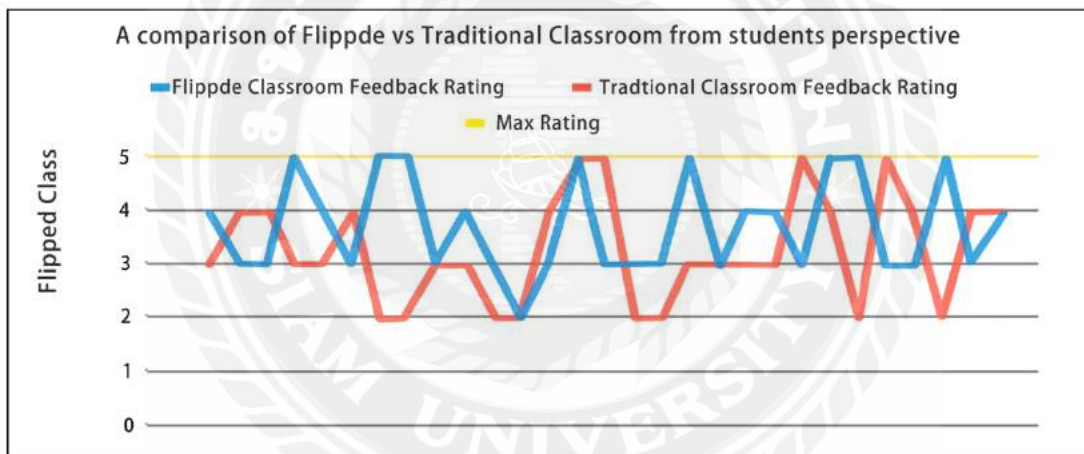
Figure 4-6 Students' comparison of a flipped classroom and traditional classroom
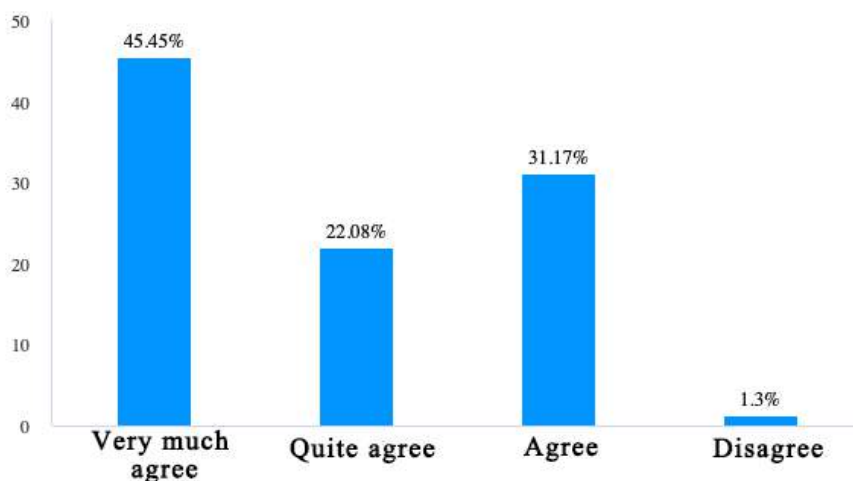
Figure 4-7 Students' mastery of classroom knowledge

After commenting on and analyzing the students' design works after class, the author conducted a questionnaire survey on 31 peer teachers in Quanzhou higher vocational colleges. Among them, as shown in Figure 4-8, 67.74% of the peer teachers highly agree that the flipped classroom model can Maximize the embarrassment of short professional class hours, and improve the utilization rate of class hours under limited arrangements. From Figure 4-9, the author finds that the classroom performance of students is different from traditional classrooms, the classroom atmosphere is highly active, and teachers' Mutual help with students improves the quality of design works, and 64.52% of teachers report that students can immediately give feedback on design questions and seek help, which also verifies the author's hypothesis H2 and H3.

Figure 4-8 The design of flipped classroom mode can effectively improve the utilization rate of class hours

Figure 4-9 In the flipped classroom, students can actively participate and seek help.

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

Through the research on flipped classroom theory and practice, the author profoundly analyzes the teaching objectives, teaching content, course evaluation system, learning resources, and learning environment of the introductory cours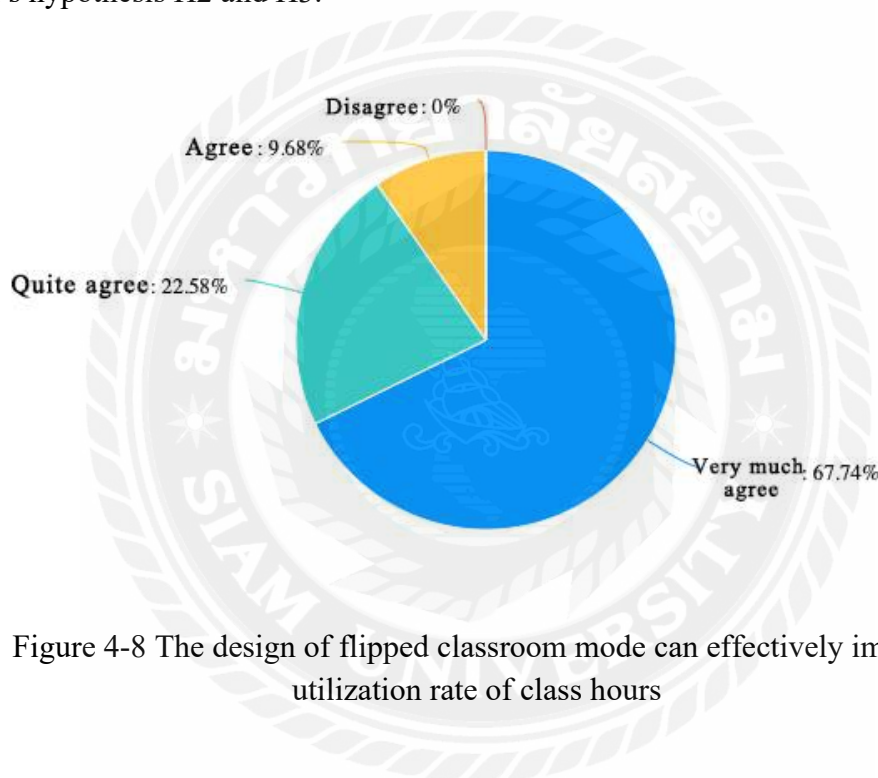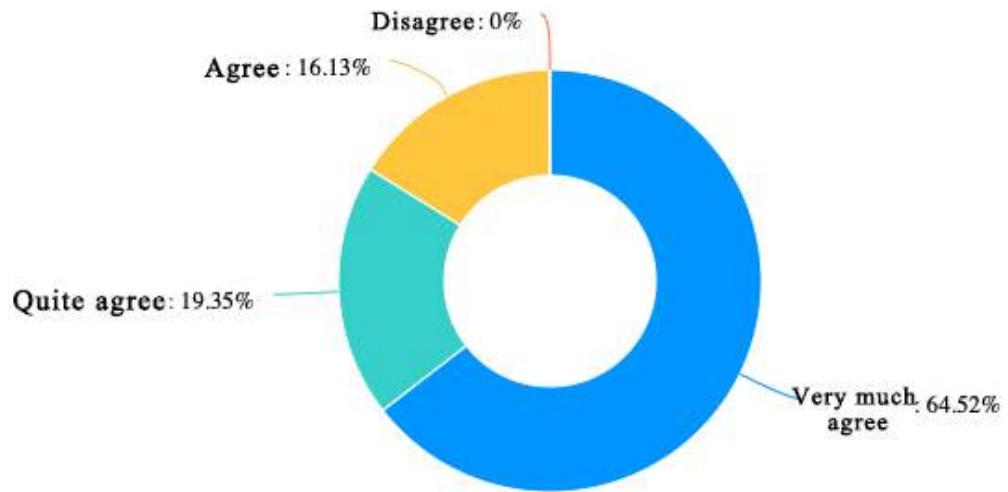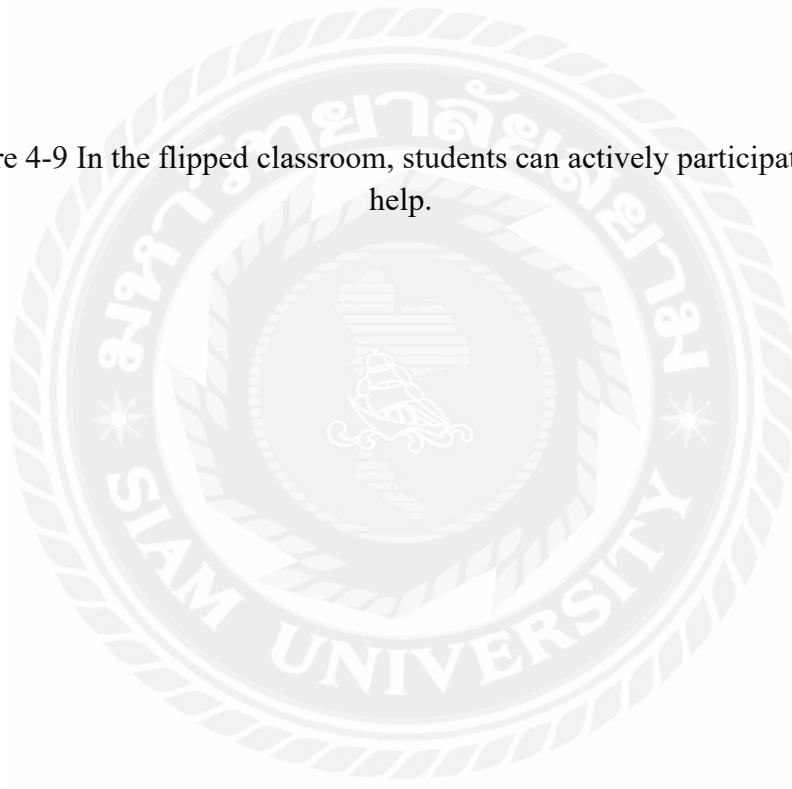es of advertising design in higher vocational colleges, combined with the characteristics of contemporary higher vocational art students, Constructing the classroom teaching model of higher vocational education. Through this research, it is shown that the flipped classroom teaching practice carried out by taking the "Basic Color" course as an example can solve some problems existing in the introductory courses of advertising design in higher vocational colleges, which are mainly reflected in the following aspects:

1. Solve the problem of many knowledge points and short class hours in art courses in higher vocational education. Applying the "flipped classroom" teaching mode to higher vocational art courses considerably prolongs the learning time of students. A large amount of basic knowledge such as knowledge points, case analysis, and demonstration operations can be completed through independent learning before class, while limited classroom Time is used to solve doubts and critical points, stimulate students' creative thinking and improve professional skills and artistic accomplishment through exchanges and discussions, display evaluations, and completion of class assignments. After class, under the guidance of teachers, students can improve their design level by participating in professional skills competitions or school research and summarizing enterprise cooperation projects.

2. Stimulate students' active inquiry consciousness. The traditional teaching mode is teacher-led classroom teaching. It is difficult to tconsider students with different characteristics during the teaching process, and it is prone to two extreme phenomena of "not being full" and "not digesting." In the flipped classroom model, independent learning before class, teaching sessions in class, and after-class expansion projects seem to be independent of each other, but they are interlinked. The effect of the previous link determines the success of the following link. Whether it is carried out smoothly or not, because the flipped classroom model breaks the time and space constraints of classroom teaching, students no longer rely on the teacher's indoctrination learning, but instead realize the knowledge exploration of the corresponding links through active exploration and communication. Discovery, solution, and analysis have significantly improved their creative ability and professional quality.

3. Improve students' ability to use colors. The primary purpose of flipping the classroom of "Basic Colors" is to understand and apply knowledge deeply. It is a process of teaching implementation. In this way, students can master professional skills while learning color-matching knowledge. At the same time, it cultivates students' necessary professional abilities such as teamwork, cooperation, and communication. In the classroom, teachers continue to guide students to think independently and study independently, stimulate students' enthusiasm for learning, enable students to carry out lifelong learning, improve students' innovative ability, and combine extracurricular knowledge with classroom, so that students' independent learning and career Core competencies are improved.

5.2 Recommendation

5.2.1 Optimize technical means and strengthen independent learning management

In the student-centered flipped classroom, the requirements for students' independent learning ability are relatively high, which is not easy for vocational students. If students do not complete the pre-class watching video and pre-class learning tasks well, the classroom activities cannot be carried out smoothly. During this project, the author spent a lot of time before and after class to urge students to complete learning tasks, answer questions, participate in discussions, and count the learning effects of each link. If you want to achieve better teaching effects, you need to use technical means or optimize the teaching management system.

5.2.2 Adjust the teaching links to enhance the mastery of classroom rhythm

Although a complete teaching design is formulated before each class, due to the many teaching links in the classroom, there will be an uncontrollable time in some links. Differences in cognition and concept lead to too long discussion time, which affects the regular progress of the following link; for another example, due to the particularity of art courses, students are unable to complete some classroom practice assignments on time due to the difficulty of being creative for a while. After completing the homework, it is natural that you will not be able to participate in the presentation and evaluation of the following link, which will ultimately affect the overall teaching rhythm; therefore, teachers should flexibly grasp each teaching link in the classroom and control the classroom rhythm.

5.2.3 Build a teaching team to improve the utilization of teaching resources

Although many courses are involved in art majors in higher vocational colleges, many course resources can be integrated through the flipped classroom model, such as

professional introductory courses represented by the design and color matching. Information technology support and other aspects can establish a teamwork model to improve teaching efficiency and ensure teaching quality.

5.2.4 Improve the assessment standards and play the guiding role of evaluation

In this project, the author has formulated the evaluation plan for the "Basic Color" course, but the plan is limited by many factors. The orientation of awareness and career planning awareness needs to be further improved-sful model of classroom reform for other similar colleges.

Although the results of this project have verified the feasibility and effectiveness of the flipped classroom teaching mode of the basic course of design in Guangao Higher Vocational Education, there are many shortcomings due to the limitation of the author's research level and knowledge reserve. For example, the number of selected teaching practice objects is not large, and the majors involved are not extensive, which leads to the low representativeness of the practical effect. It is necessary to expand the research scope in the follow-up research and conduct investigations on students and teachers of different majors, different regions, and different schools. The achievement of the emotional goal of "design project management ability and social environment adaptability" needs to be improved. In the follow-up practice, we should try to introduce practical projects through school-enterprise cooperation, teach with actual projects and environments, and use flipped classrooms to carry out modularization of teaching content. Divide, and combine in-class and extra-curricular to complete the teaching content.

In short, the teaching practice proves that the flipped classroom teaching mode of the introductory color course provides a successful experience for the improvement of the teaching mode of other higher vocational advertising design introductory courses, and also provides a successful model of classroom reform for other similar colleges.

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Appendix A

Student self-assessment form for "flipped classroom" teaching

project	index	Score（1-10）	Remark
Before class	1.1 Learning objectives and tasks are clear, Can make necessary knowledge, skills and other preparations for new knowledge learning; 20%		
	1.2 Able to complete various tasks such as independent study, group discussion, self-test, report writing, and participation in practice as required, Able to manage self-learning; 20%		
In class	2.1 Clear classroom teaching tasks, be able to listen carefully, think actively, and participate in exchanges and discussions, and make full use of pre-class learning preparations in the classroom; 20%		
	2.2 Can understand the content explained by the teacher, master the learning and thinking methods, and combine it with practical application, be able to complete the classroom tasks assigned by the teacher, and be able to put forward their own opinions and viewpoints; 20%		
after class	3.1 Able to complete challenging tasks independently or cooperatively within a certain period of time after class；5%		
	3.2 Be able to work with team members, have certain organizational skills, and have a friendly team relationship; 5%		
	3.3Through learning activities, get guidance from teachers, have high satisfaction with learning experience, and have a sense of learning achievement; 10%		
general comment	（1.1+1.2）*2+（2.1+2.2）*2+（3.1+3.2）*0.5+3.3		
classroom learning reflection	Harvest, deficiency, improve thinking		

Appendix B

"Flipped Classroom" Teaching Peer Evaluation Form

project	index	Score（1-10）	Remark
Before class（10%）	1.1 The teacher's teaching design is scientific and reasonable, the teaching resources are fully prepared, and the students' learning is completed according to the task；		
In class（80%）	2.1 Teachers have strong classroom teaching organization ability, appeal and adaptability		
	2.2 Concentration of classroom students, breadth of interactive participation, good effect		
	2.3 The teaching content is appropriate, novel and applicable		
	2.4 Rational design and effective implementation of teaching organization		
after class（10%）	3.1 Students' learning evaluation, the design scheme is reasonable, can reflect selectivity, motivation and stimulate learning interest; after-school learning tasks are clear, expandable, and reflect the cultivation of application ability (provided by the platform)		
	3.2The network platform, school environment, and classroom teaching technology support are good (the evaluation object is the school teaching conditions, for reference)		
	3.3The overall experience of listening to lectures is good (for evaluation and verification)		
general comment	1.1+（2.1+2.2+2.3）*2+3.1		
Before class	Pros, Cons, Suggestions		

Appendix C

Self-assessment form for "flipped classroom" teaching teachers

project	index	Score（1-10）	Remark
Before class	1.1 Complete and targeted teaching, reasonable design of learning tasks for students, advanced teaching design concepts, appropriate methods, effective and feasible learning measurement; 20%		
	1.2 The online learning resources are fully prepared and supported, and the difficulty and load of the pre-class learning tasks are suitable for students to complete independently; the pre-class learning of the students has been tracked and evaluated, 20%		
In class	2.1 Carry out the teaching organization and complete the teaching content according to the plan, learn the difficult points, and clearly explain the students' problems; 20%		
	2.2 Pay attention to all kinds of students in the classroom, interact well with students, use various strategies to stimulate students' interest in learning, and achieve the goal of teaching design; 20%		
after class	3.1 Measured and analyzed the learning effect of students, and made timely reflection on classroom teaching design, teaching organization and teaching effect; 5%		
	3.2 Can provide students with learning support in a timely manner, and carry out online and face-to-face answers to difficult questions and counseling; 5%		
	3.3 Emotionally compatible with students, with a sense of teaching accomplishment, and high satisfaction with personal teaching experience; 10%		
general comment	（1.1+1.2）*2+（2.2+2.2）*2+（3.1+3.2）*0.5+3.3*1		
classroom learning reflection	Harvest, deficiency, improvement, thinking		

Appendix D

"Flipped Classroom" Teaching Student Questionnaire

index	question	very much agree	quite agree	agree	disagree
learning design	I have a very good understanding of the teaching objectives of the course, and I have a clear understanding of each "flipped classroom" learning				
	I think the teacher's teaching design activities for the flipped classroom are very attractive to me, and I will complete them as required;				
	I think that compared with the traditional teaching mode, I have invested more time and energy in the pre-class study;				
	I think I study a little more seriously in the flipped classroom compared to the traditional teaching model				
Learning Resources	I think that the various learning resources provided by the teacher can meet my learning needs				
	I think the video learning material is of the right length and engages me to complete the learning tasks				
	I think the online course platform that supports course teaching is convenient and efficient to use, which facilitates my independent learning and communication				
	I think flipped teachers provide a better learning space and the classroom environment feels comfortable				
	I am very familiar with the course learning approach and learning methods under the flipped classroom model				

Learning methods (self-directed learning, cooperative learning, problem-oriented)	I can actively learn and be fully prepared for each flipped class				
	I can complete flipped classroom learning tasks independently or with a group				
	I am very aware of the problems encountered in the learning process				
	I will take the initiative to ask the teachers and classmates about the questions encountered in the course study				
	I will actively organize or participate in extracurricular group discussions, practice and other activities				
	I really enjoy communicating our learning outcomes in class				
	I take part in classroom activities very seriously				
	I like to participate in online discussions and answer classmates' questions				
Harvest learning (learning ability, knowledge mastery, expression communication, learning experience)	By flipping the classroom model, I will arrange my study time more reasonably				
	Through the flipped classroom model, I have a more comprehensive grasp of course knowledge				
	Through the flipped classroom model, I feel that my language expression, cooperation and communication skills have improved				
	I am very satisfied with my learning experience in flipped mode				

Appendix E

Flipped Classroom Teacher Questionnaire

index	question	very much agree	quite agree	agree	disagree
learning design	The design of flipped classroom mode can effectively improve the utilization rate of class hours				
	The instructional design activities of the flipped classroom can attract students' attention in the classroom				
Learning Resources	The flipped classroom uses the pre-class network platform to provide video teaching, which is helpful for students to learn conveniently, efficiently and independently.				
Study method	Students are able to fully prepare before class				
	Students can complete flipped classroom learning tasks independently or in groups				
	Students actively participate in discussions in class, ask questions in time, and seek help from teachers. Effectively improve the quality of classroom teaching				
Learning harvest	Through the flipped classroom mode, the quality of students' design works has been effectively improved				
	The flipped teaching mode can improve students' ability of communication and cooperation, and provide effective help for the diversified development of learning.				