

## THE EFFECT OF FLIPPED CLASSROOM TEACHING - “THE TEA ART” AND ITS INFLUENCING FACTORS

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### ABSTRACT

*Based on the application research of the Flipped Classroom teaching mode in the "Tea Art", this paper explores the teaching effect of the "Tea Art" flip experiment through contrast experiments. The results show that the overall satisfaction of the Flipped Classroom mode is higher and the learning effect is improved. The importance-satisfaction (IPA) model was used to analyze the students' perception of the different teaching contents of the "Tea Art" Flipped Classroom, and to provide ideas for further improvement of the Flipped Classroom of "Tea Art".*

**Keywords:** *Tea Art, Flipped Classroom, IPA, teaching evaluation.*

### INTRODUCTION

Under the spur of green consumption and leisure tourism, the featured projects with the theme of tea art are increasing in hotels and tourist attractions (Liu Liqun, 2017). The opening of the "Tea Art" course in colleges and universities not only meets the market demand but also caters to the era requirements of the transformation and upgrading of consumption concepts (Lin Jie, 2017).

The "Tea Art" course is highly practical, and the training of service skills such as tea connotation, tea brewing skills and tea performances is based on the course experiment. However, in the actual teaching process, the experimental teaching curriculum is thin, the experimental conditions are poor, the theory and practice are out of line, the curriculum setting and the talent demand are out of line (Li Mengdi, 2017), which seriously affects the cultivation of tea skill talents. In order to improve students' practical skills, although colleges and universities have made a lot of attempts to improve the practical teaching system, such as increasing the number of experimental classes, increasing the proportion of innovation practice, driving the disciplines, and teaching the elites of scientific research teams (Yu Yang, Luo Yinsheng & Liu Xiaojie, 2014), but in the teaching process, the elements like courses and classes have their personalities, so the course mode and the class teaching are worth exploring. This paper based on the teaching practice of the "Tea Art"

Flipping Classroom, which explores the teaching effect through the contrast experiment, using the IPA model to further analyze the students' perception of the different teaching contents of the "Tea Art" Flipped Classroom, and provide ideas for the improvement of the curriculum.

### Tea Art Flipping Classroom Practice

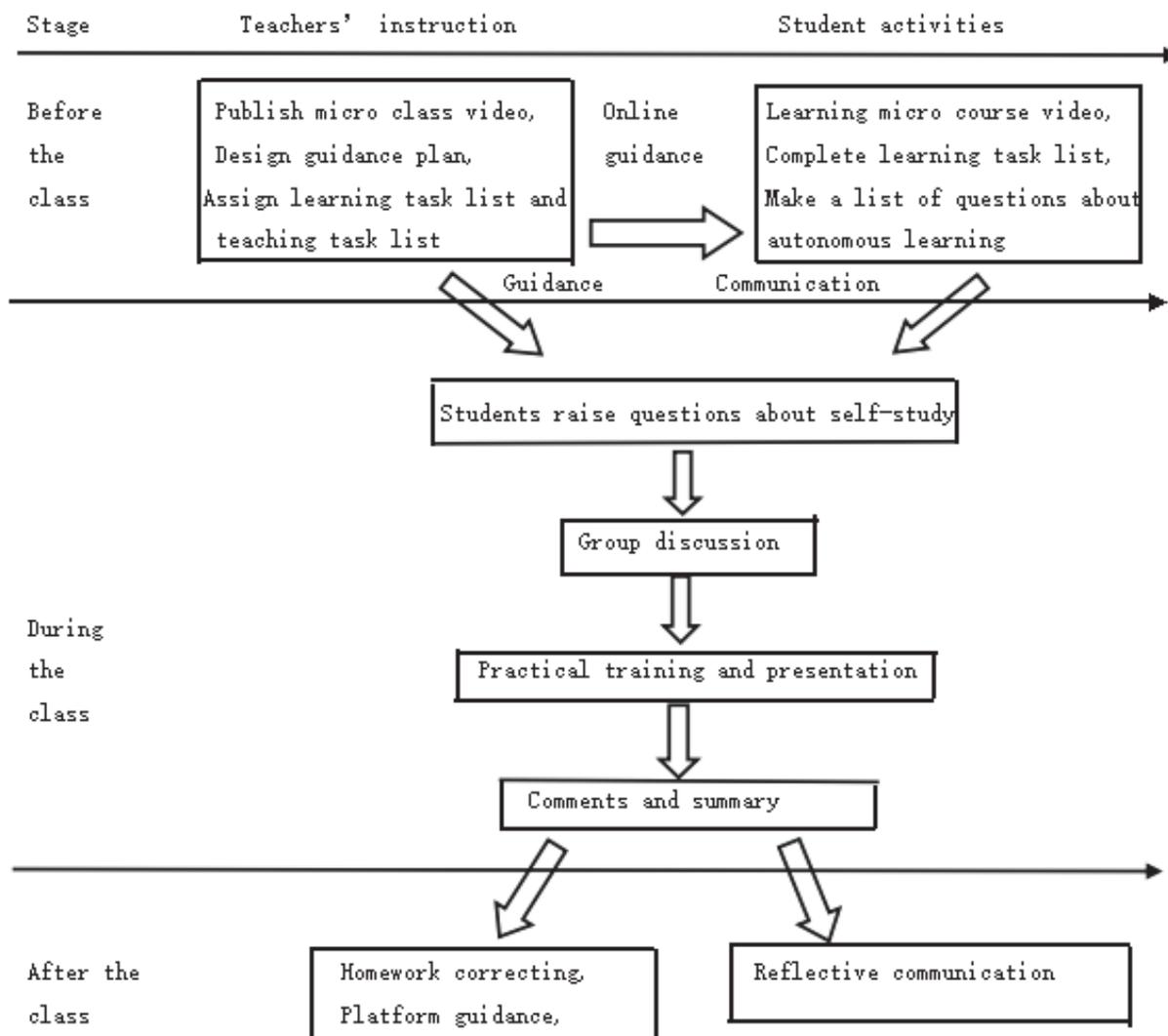
The flipped classroom has been popular in some universities in China since 2007. In 2011, it has been favoured by various schools. Many successful cases have affirmed the teaching effect of flipped classrooms (Fan Xinmin & Zeng Haijun, 2017); some scholars have doubts about flipping classrooms however (Luo Dandan, 2017). Table 1 compares the teaching of flip experiment with the traditional experimental teaching. It can be seen that the flipped classroom is more in line with the basic elements of the experimental course in terms of situations and problems, brain and hands, content and time, guidance and discussion, contact and reflection (Liu Yongqi & Hu Fangang, 2015). The application of the flipped classroom teaching model to the experimental course not only enables students to greatly improve their understanding and mastery of basic knowledge but also cultivates students' independent learning ability and practical innovation ability (Yin Da, 2014).

**Table 1: Comparison between Traditional Experimental Teaching and Flipped Classroom Experimental Teaching**

Learning Phase	The Traditional Experimental Teaching		The Flipped Classroom Experimental Teaching	
	<i>Teachers</i>	<i>Students</i>	<i>Teachers</i>	<i>Students</i>
Before the class	Arrange the preview content	Understand the teaching content	Guided preview: micro-course video, tutorial, study task list, pre-course exercises, online Q & A	Purposeful preview: complete the task of arranging the task list, lists the questions before class, online communication.
During the class	Content explanation, question answer	Do experiments, ask questions when in doubt.	Internalization of knowledge: answer questions about students, organize class discussions, summarize key points, observe students with learning difficulties and individual counselling.	Purposeful learning: asking questions, hands-on experiments, discovering problems and discussing how to solve them
After the class	Correction experiment report	Fill in the experiment report	Consolidation after class: Online Q&A	Reflection after class: complete the experiment report, online communication.

## Teaching Design of "Tea Art" Flipped Course

The teaching design of the "Tea Art" flipped course is divided into three parts: before, during and after the class. The course content is taught by the project system, and the content is selectively flipped according to the content. The specific teaching process is shown in Figure 1.



**Figure 1: The Flow Chart of "Tea Art" Flipped Classroom Mode**

Take the "Tea Ceremony" item in the "Tea Art" course as an example: it mainly includes cultural connotations and operation skills such as dressing ceremony, posture ceremony and tea ceremony. Course design, classroom internalization, and extracurricular expansion are carried out according to the teaching process of Figure 1. The specific operation process is as follows:

## **Pre-Class Micro-Course Video Design and Self-Study Guidance**

The pre-recorded micro-video will be released on the Superstar Pan-Ya platform, in the meantime, the "tea ceremony" guidebook and study task list will be released too, including learning objectives, learning difficulties, learning methods and learning tasks, etc. Keeping abreast of the situation of student's self-study according to the student video learning progress on the platform, and design a list of lectures based on this.

## **Flipping the Classroom**

Classroom is actually the internalization of knowledge: firstly, students are required to raise the questions existing in the self-study process and guide everyone to discuss collectively; and then do it once again, so they can check the students' learning situation by questioning, it works in order to check for missing key points, such as the real meaning of "hands manoeuvres" ? Based on reviewing and consolidating the basic knowledge points, enter the training demonstration link, complete the tea ceremony and tea ceremony etiquette in groups; finally, ask the students to conduct a mutual evaluation on the tea ceremony display, and the teacher comments and summarizes.

## **After-School Knowledge Consolidation and Activity Development**

Students are required to reflect on the tea etiquette, improve the operational skills of the tea ceremony display, and upload the complete tea ceremony display video on the platform of the MOOC, and exchange and interact with teachers and students.

## **EDUCATIONAL EFFECT EVALUATION**

### **Teaching Object and Content**

In the fall of 2017, the students of tourism management major were taught. 73 classes were divided into two small classes based on the pre-learning foundation and the college entrance examination results. One class was the control group (37 people) and the second class was the experimental group (36 people), the two classes of teachers, the textbooks used and the class schedule are exactly same.

The content of the "Tea Art" course is distributed in the chapters of the two classes as showed in Table 2. The control group used traditional experimental teaching, and the experimental group used the combination of the flipped classroom and the traditional teaching mode, \* was the implementation content of the flipped classroom.

**Table 2: Distribution of Chapters in the "Tea Art" Course and Distribution of Test Scores**

Chapters	<i>Chapter 1</i> Tea ceremony spirit	<i>Chapter 2</i> Basics of tea art	<i>Chapter 3*</i> Tea brewing skills	<i>Chapter 4</i> Tea ceremony	<i>Chapter 5</i> Local tea culture	<i>Chapter 6*</i> Tea design and performance
Hour	2	2	12	4	4	8
Test Paper Score	10	12	27	15	16	20

### Teaching Evaluation

The teaching evaluation of the flipped classroom is carried out in a combination of process evaluation and summative evaluation. The process evaluation is judged by the students themselves, and the final evaluation is reflected by the final exam results.

### Process Evaluation

The procedural assessment mainly examines the students' perception of the learning process and examines the learning process of students in terms of knowledge, skills, and emotions in accordance with the teaching objectives. Therefore, the questionnaire design mainly includes overall satisfaction, knowledge point memory, and understanding, operational practice ability, innovative thinking ability, etc., using the Likert five-level scale method, designed "very dissatisfied" and "not satisfied" Five levels of "general", "satisfactory" and "very satisfied" is indicated by 1, 2, 3, 4, and 5 respectively. The questionnaire was answered online, controlled at 3 min, and the recovery rate was 100%.

The questionnaires were statistically analyzed (Table 3): The overall satisfaction values of the control group and the experimental group were 2.9189 and 3.7778, respectively, that is the overall satisfaction of the students in the control group was lower than the "general" level, and the overall satisfaction of the experimental group was close to "satisfactory", indicating flipped classroom teaching mode is recognized by students. Among them, the average value of students' knowledge, understanding, analysis and application ability and innovation practice ability in the experimental group were more than 3.5, indicating that the flipped classroom mode can promote students' mastery of knowledge points, strengthen operational practice ability, and enhance innovative thinking ability.

**Table 3: "Tea Art" Course Satisfaction Statistics**

Class		Overall Satisfaction	Key Points Memory and Understanding	Operational Practice Ability	Creative Thinking Ability
Control Group	Mean	2.9189	3.5135	2.9459	2.5405
	N	37	37	37	37
	Standard Deviation	.75933	.60652	.40455	.50523
	Variance	.577	.368	.164	.255
Experimental Group	Mean	3.7778	4.0278	3.6944	3.5833
	N	36	36	36	36
	Standard Deviation	.63746	.69636	.52478	.64918
	Variance	.406	.485	.275	.421
Total	Mean	3.3425	3.7671	3.3151	3.0548
	N	73	73	73	73
	Standard Deviation	.82022	.69763	.59807	.77979
	Variance	.673	.487	.358	.608

### Final Evaluation

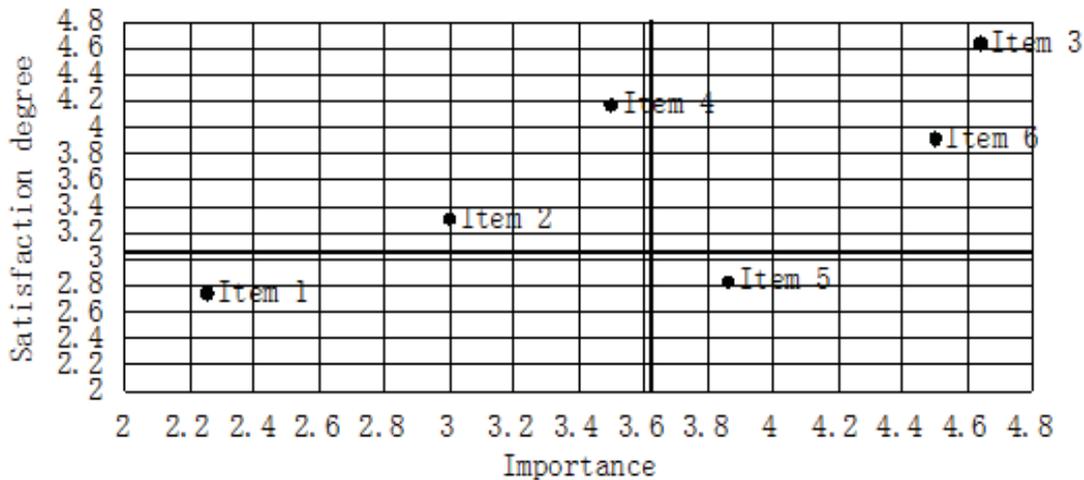
To test the quality of students' learning and the effect of flipping the classroom teaching mode, the two end-of-class questions are the same, with a score of 100 (see Table 2). Two independent samples are tested in SPSS17 for the two groups of students. It is expressed as the mean  $\pm$  standard ( $X \pm S$ ) difference (as in Table 4). It can be seen that the total score of the final exams of the experimental group students are significantly higher than those of the control group, indicating that the flipping classroom teaching mode can improve the students' learning effect. The difference in the scores of the third, fourth and sixth items are statistically significant, that is the teaching content of the flipping is improved obviously.

**Table 4: Comparison of Final Exam Scores between the Two Groups of Students**

Contents	Experimental Group (n=37)	Control Group (n=36)	t	Sig.(Both sides)	Mean Satisfaction	Mean Importance
Chapter1	8.5000 $\pm$ 0.84515	8.4865 $\pm$ 0.83738	-.069	.945	2.7500	2.2500
Chapter2	10.2500 $\pm$ 0.80623	10.0000 $\pm$ 1.31233	-.977	.332	3.3056	3.0000
Chapter3	23.0000 $\pm$ 1.26491	20.9189 $\pm$ 2.01905	-5.292	.000	4.6389	4.6389
Chapter4	13.0000 $\pm$ 0.95618	11.6486 $\pm$ 1.78288	-4.050	.000	4.1667	3.5000
Chapter5	13.0000 $\pm$ 0.98561	13.0000 $\pm$ 0.97183	.000	1.000	2.8333	3.8611
Chapter6	16.0556 $\pm$ 1.14504	14.2162 $\pm$ 1.90227	-5.021	.000	3.9167	4.5000
Total	83.8056 $\pm$ 4.00585	78.2703 $\pm$ 6.83800	-4.234	.000		

## ANALYSIS OF EVALUATION RESULTS

Taking the experimental group students as the research object, students were scored the satisfaction and importance of each project. The questionnaire design was based on the Likert scale to measure the students' perception of the various aspects of the "Tea Art" course. The degree (IPA) model analyzes the questionnaire data (Table 4). The student's perception of project importance (horizontal axis) intersects satisfaction (vertical axis) at point (3.625, 3.602), and the IPA four-quadrant diagram is shown in Figure 2.



**Figure 2: The Distribution Map of Importance-Satisfaction of Each Chapter**

Advantage Zone (I): Projects 3 and 6 of the first quadrant, students believe that it is very important and high satisfaction, that is tea brewing skills, tea mat design, and performance projects have a decisive effect on the level of student perception.

Maintenance Zone (II): Project 4's satisfaction of the second phenomenon is higher than expected, indicating that the influence of tea etiquette on student perception is not great. Improving it cannot effectively increase student satisfaction and needs to be sustained.

Opportunity Zone (III): Projects 1 and 2 of the third quadrant did not receive sufficient attention from students, and the satisfaction was not high enough. It was not the key to affecting student satisfaction and actually was a secondary improvement target.

Repair area (IV): The fifth satisfaction of the project in the fourth quadrant is lower than the importance, the students have a great gap between the satisfaction and importance perception of the local tea culture project, so they need to focus on improvement for repairing.

## CONCLUSION

The article designed the teaching process of the "Tea Art" course flip experiment and took the "tea ceremony" as an example to carry out empirical research. Through the contrast experiment, it was proved that the flip experiment teaching optimized the learning effect and improved the teaching quality. The importance-satisfaction (IPA) model was used to further analyze the students' perception of the different teaching contents of the "tea art" course, which indicated that the tea brewing skills, tea table design and performance projects are the dominant projects, which determine the overall perception of students; local tea culture projects and students are expected to have a large gap, so they need to focus on improvement for repairing. In the later teaching, it is necessary to continuously improve the superior projects, focus on improving the projects to be repaired, and explore the flipped form of local tea culture, to continuously optimize the flipped classroom mode of the "Tea Art" course for improving the teaching effect.

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